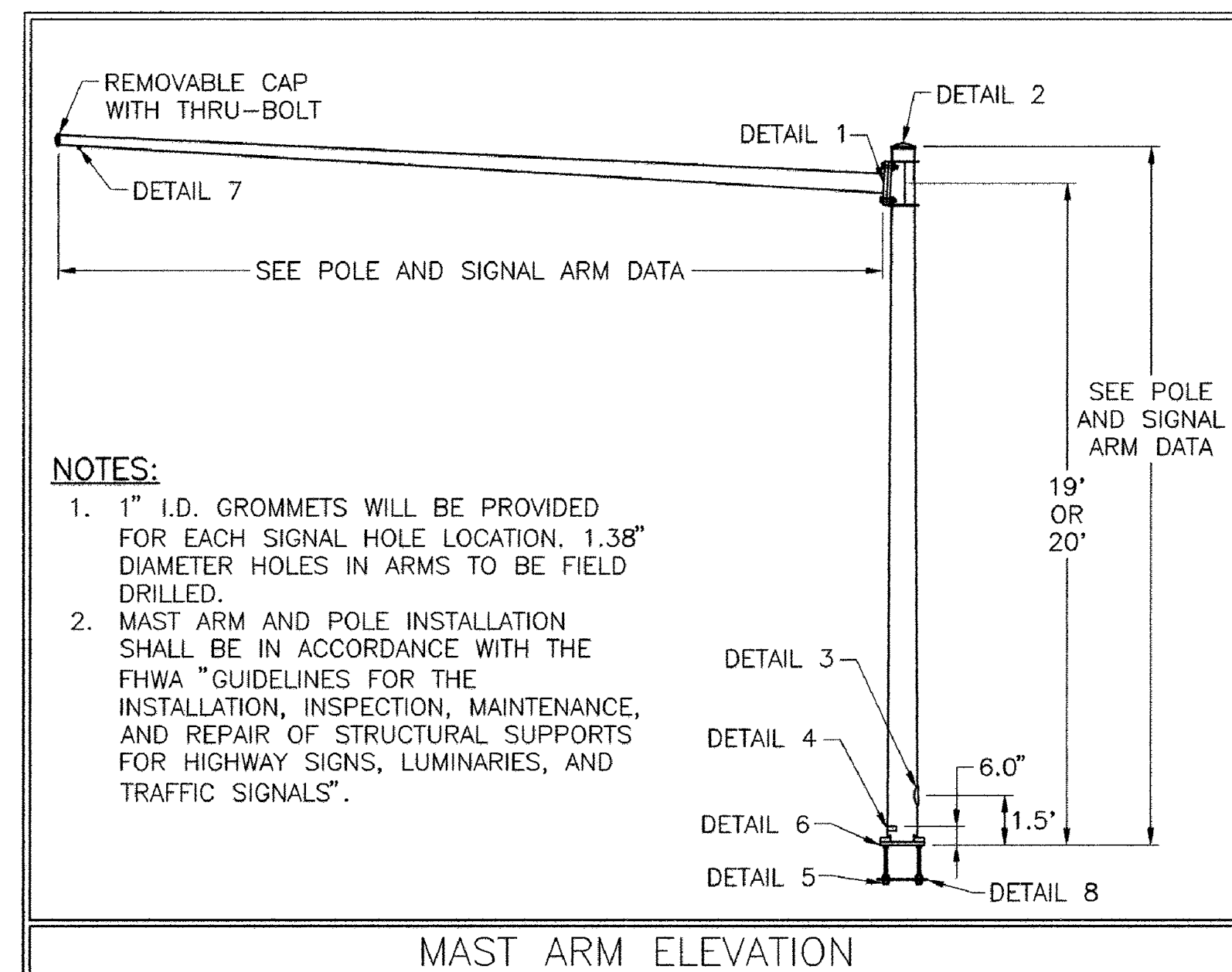


SEQUENCE AND TIMING FOR FULLY-ACTUATED CONTROL (ISOLATED) - BUSWAY										ø1		ø2		ø3		ø4		ø5		ø6		ø7		ø8		ø9	
										<div><div></div><div></div></div>		<div><div></div><div></div></div>		NOT USED		NOT USED		NOT USED		NOT USED		NOT USED		NOT USED		NOT USED	
																										FLASH OPER.	
															</												

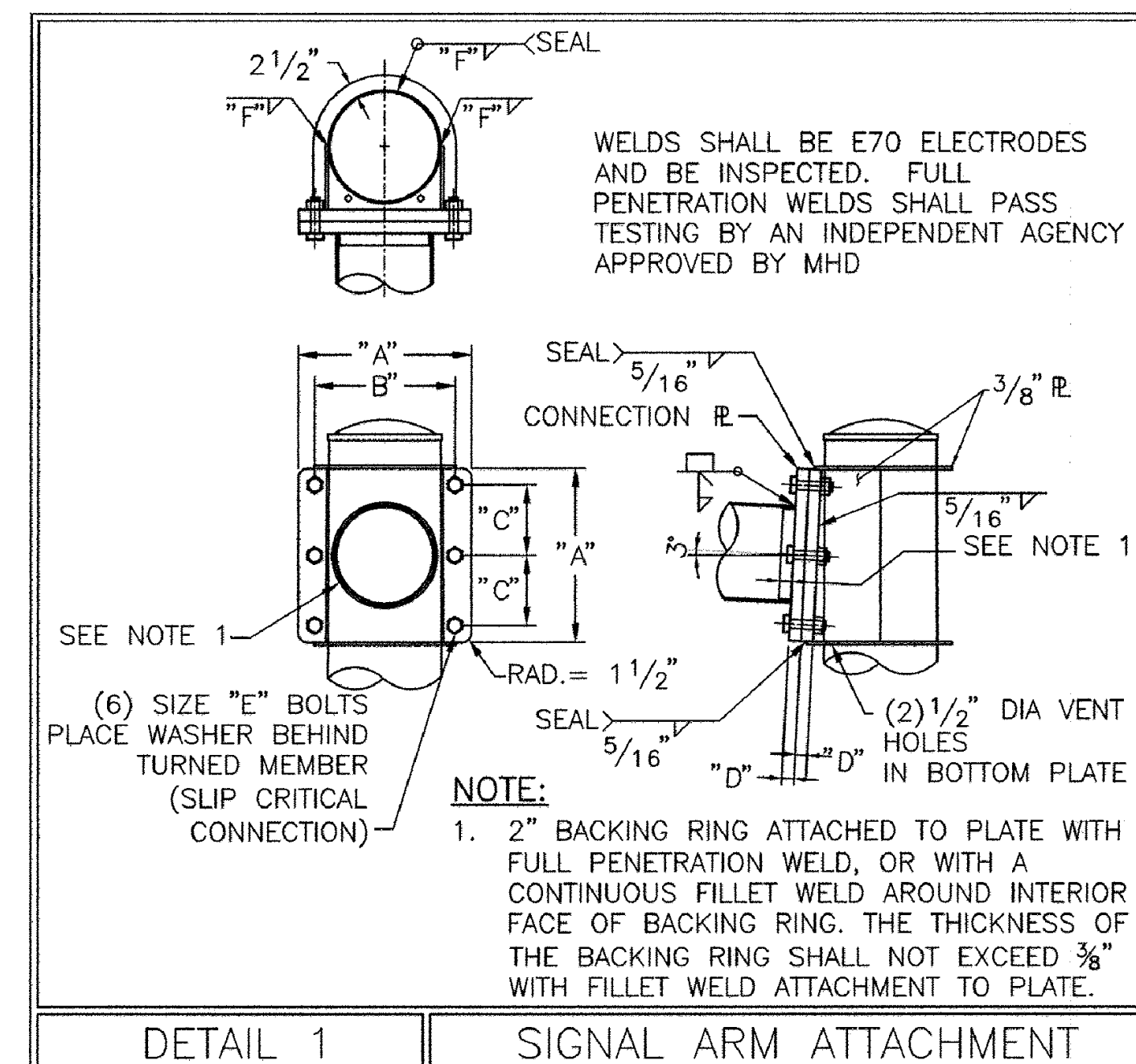
CHelsea  
SILVER LINE GATEWAY

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	136	346
PROJECT FILE NO.		604428	

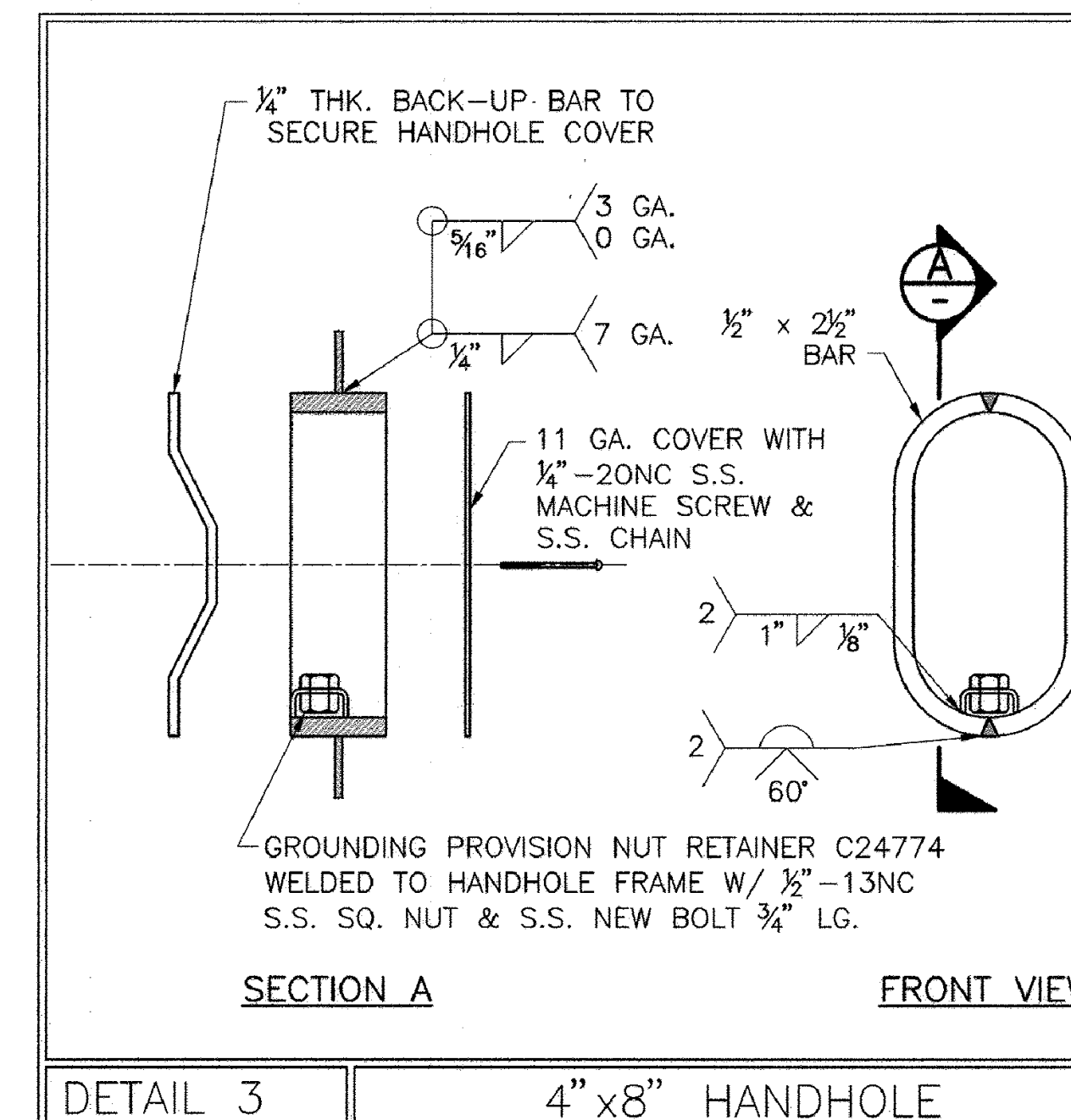
TRAFFIC DETAILS - 3 OF 6  
MAST ARM DETAILS



MAST ARM ELEVATION



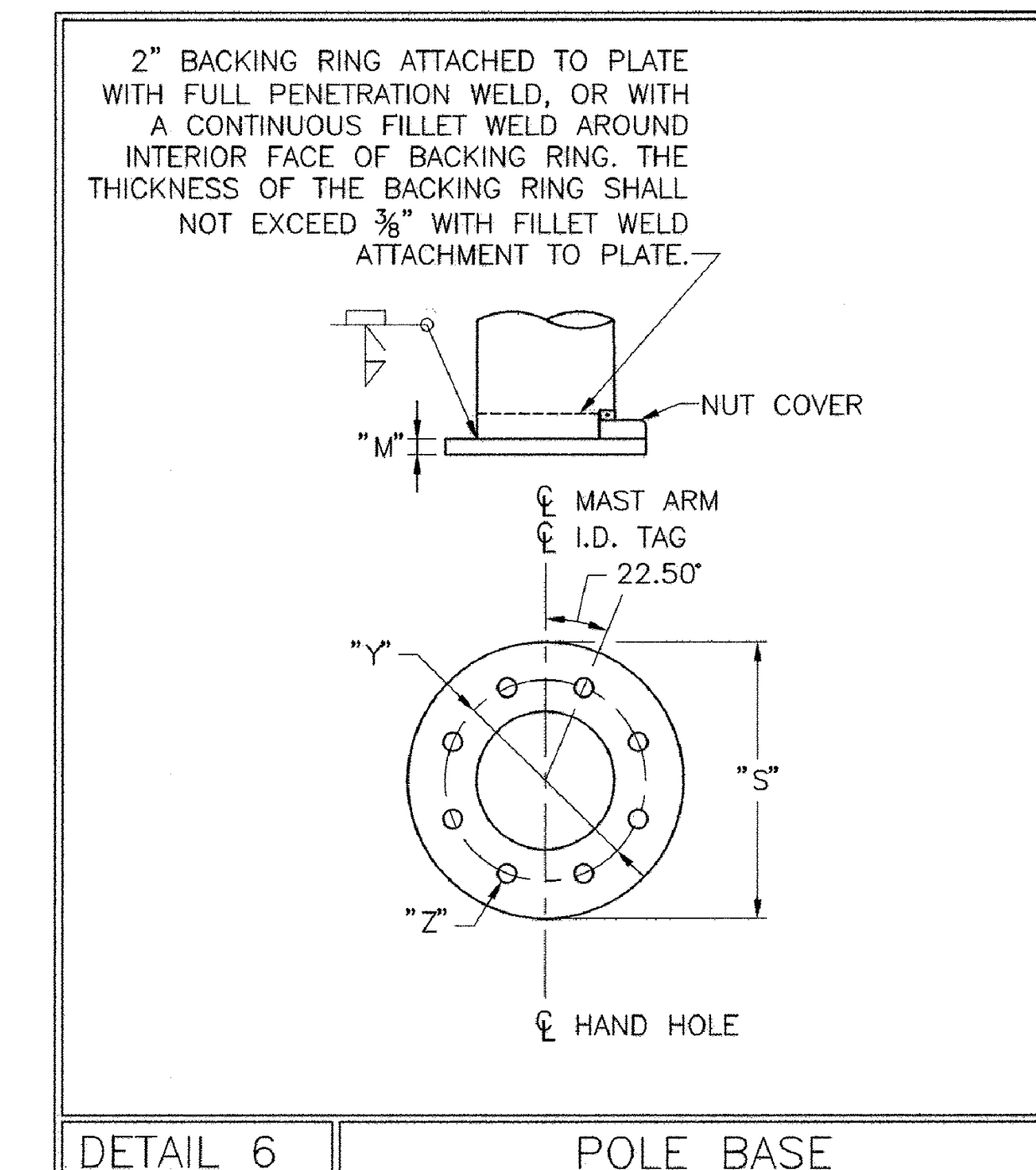
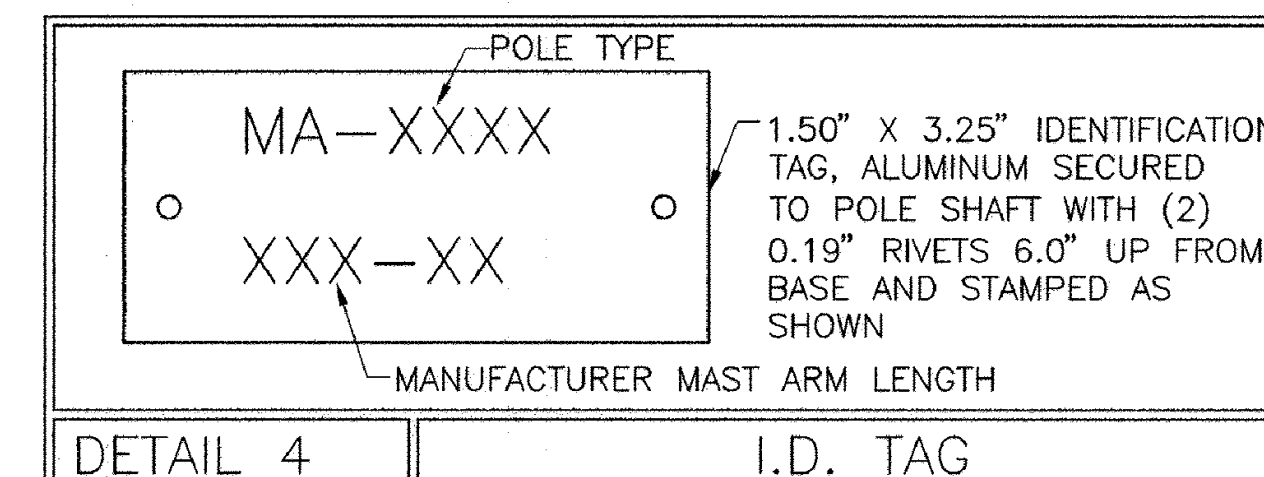
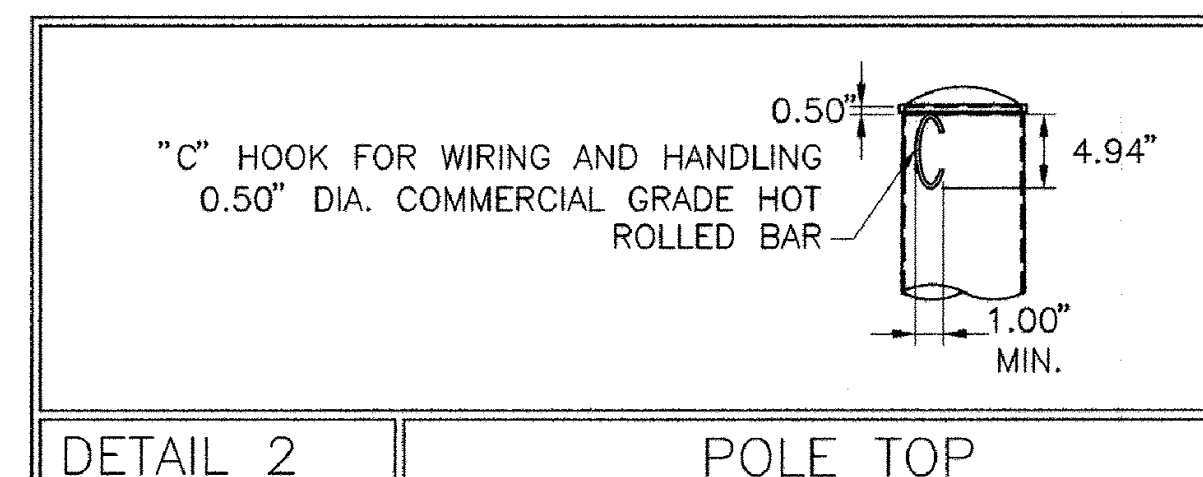
DETAIL 1 SIGNAL ARM ATTACHMENT



DETAIL 3 4"x8" HANDHOLE

MATERIAL DATA					
COMPONENT	DESIGNATION	YIELD (KSI)	COMPONENT	DESIGNATION	YIELD (KSI)
POLE TUBE	ASTM A595 GR. A	55	ARM TUBE	ASTM A595 GR. A	55
POLE BASE PLATE	AASHTO M270	50	ARM CONNECTION PLATE	AASHTO M270	50
ANCHOR BOLTS	AASHTO M314	55	ARM CONNECTING BOLTS	AASHTO M164 **	
GALVANIZING	AASHTO M111 OR M232				

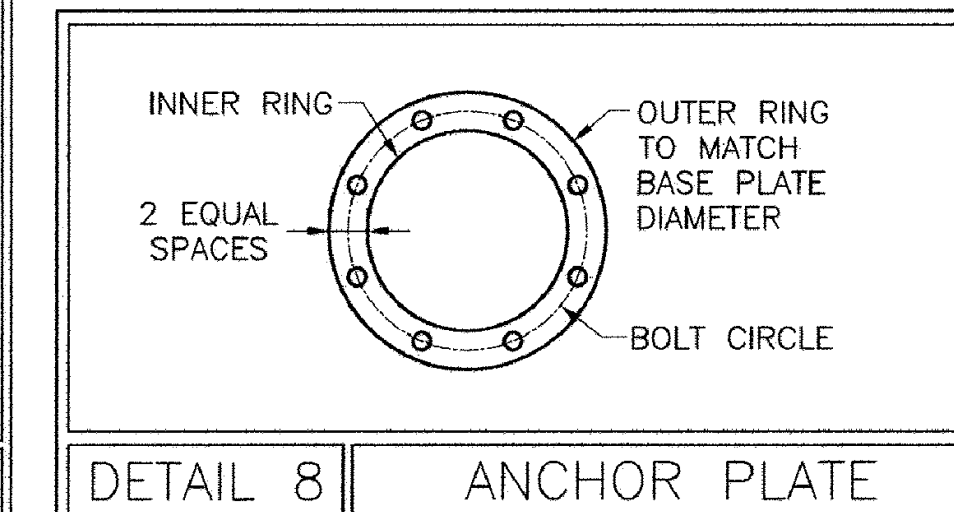
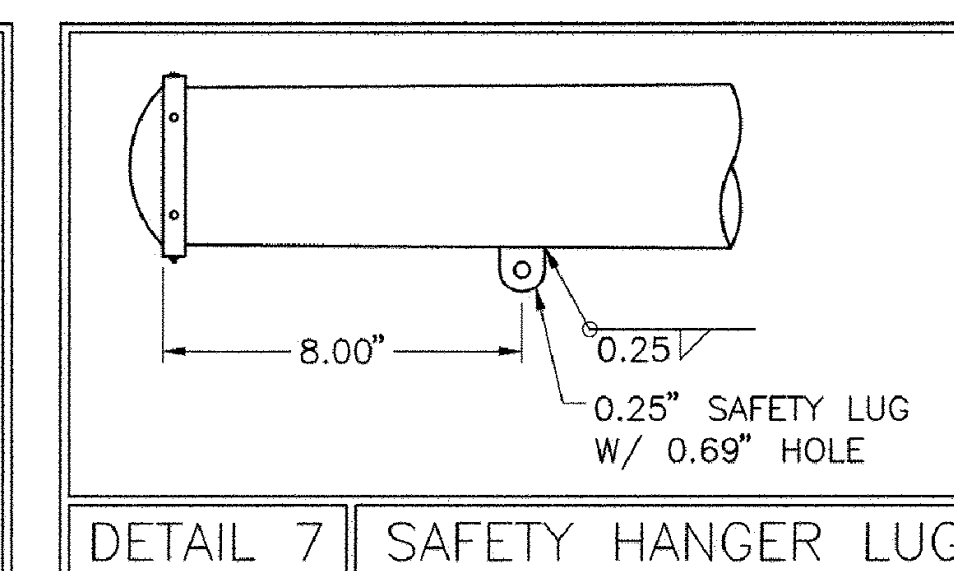
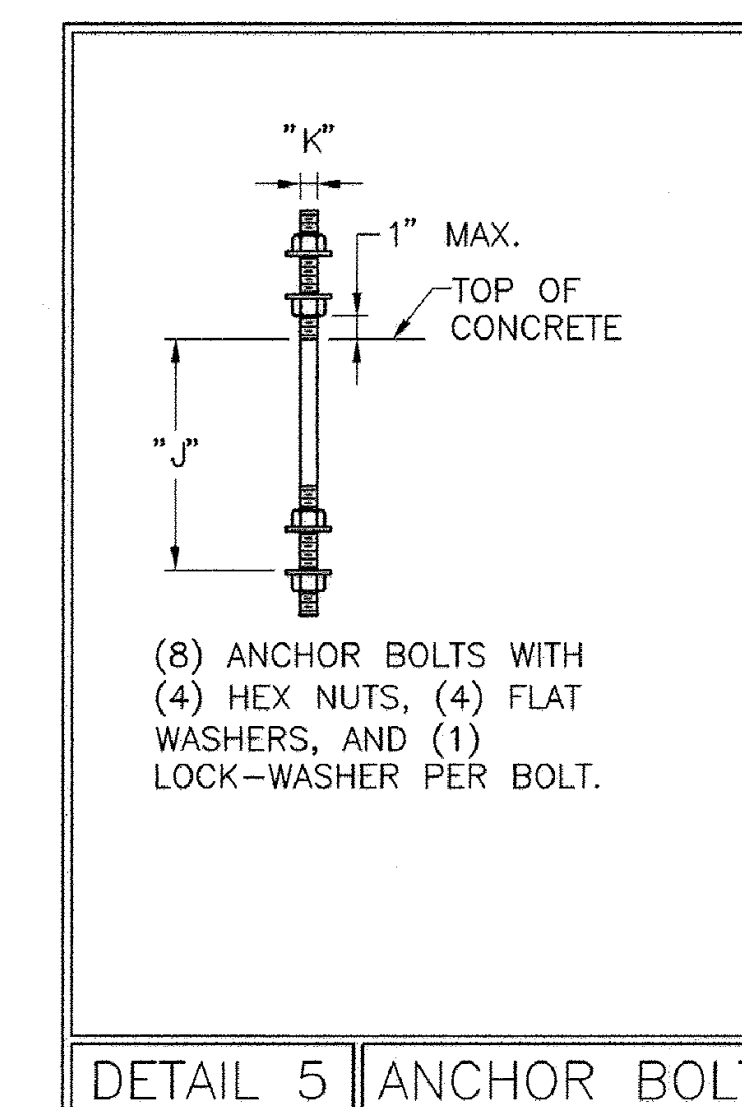
\*\* BOLTS WHICH ACCUMULATE RUST OR DIRT SHALL BE DISCARDED.



POLE AND SIGNAL ARM DATA — LIGHT LOADS																				
LOCATIONS	SIGNAL ARM TUBE				POLE TUBE				POLE BASE				ANCHOR BOLT		SIGNAL ARM ATTACHMENT DATA					
	SPAN (FT)	FIXED END DIA. (IN)	FREE END DIA. (IN)	WALL THK.	BASE DIA. (IN)	TOP DIA. (IN)	LENGTH (FT)	WALL THK.	PLATE CIRCLE "S" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	HOLE "Z" (IN)	DIA. "K" (IN)	EMBED. LENGTH "J" (IN)	"A" (IN)	"B" (IN)	"C" (IN)	"D" (IN)	"E" (IN)	"F" (IN)
	15.00	9.00	6.90	7 GA.	12.00	9.06	21.00	7 GA.	29.50	24.00	1.50	1.813	1.50	36.00	19.00	15.00	7.50	1.00	1.00	0.188
BUSWAY	20.00	9.00	6.20	7 GA.	12.00	9.06	21.00	7 GA.	29.50	24.00	1.50	1.813	1.50	36.00	19.00	15.00	7.50	1.00	1.00	0.188
BUSWAY	25.00	10.00	6.50	7 GA.	13.00	10.06	21.00	7 GA.	29.50	24.00	1.50	1.813	1.50	36.00	20.00	16.00	8.00	1.00	1.00	0.188
	30.00	12.50	8.30	3 GA.	15.50	12.56	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	23.50	19.00	9.50	1.25	1.25	0.250
	35.00	13.00	8.10	3 GA.	16.00	13.06	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	24.50	20.00	10.00	1.25	1.25	0.250
	40.00	13.00	7.40	3 GA.	16.00	13.06	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	24.50	20.00	10.00	1.25	1.25	0.250
	45.00	13.50	7.20	3 GA.	16.50	13.56	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	27.50	22.00	11.00	1.50	1.50	0.313

POLE AND SIGNAL ARM DATA – MEDIUM LOADS																				
LOCATIONS	SIGNAL ARM TUBE				POLE TUBE				POLE BASE				ANCHOR BOLT EMBED. LENGTH "J" (IN)	SIGNAL ARM ATTACHMENT DATA						
	SPAN (FT)	FIXED END DIA. (IN)	FREE END DIA. (IN)	WALL THK.	BASE DIA. (IN)	TOP DIA. (IN)	LENGTH (FT)	WALL THK.	PLATE CIRCLE "S" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	HOLE "Z" (IN)		"A" (IN)	"B" (IN)	"C" (IN)	"D" (IN)	"E" (IN)	"F" (IN)	
	15.00	9.00	6.90	7 GA.	12.00	9.06	21.00	7 GA.	29.50	24.00	1.50	1.813	1.50	36.00	19.00	15.00	7.50	1.00	1.00	0.188
EVERETT AVE	20.00	10.00	7.20	3 GA.	13.00	10.06	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	20.00	16.00	8.00	1.00	1.00	0.250
EVERETT AVE	25.00	11.00	7.50	3 GA.	14.00	11.06	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	23.50	19.00	9.50	1.25	1.25	0.250
EVERETT, SPRUCE(2)	30.00	13.00	8.80	3 GA.	16.00	13.06	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	23.50	19.00	9.50	1.25	1.25	0.250
	35.00	14.00	9.10	3 GA.	17.00	14.06	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	27.50	22.00	11.00	1.50	1.50	0.250
	40.00	15.00	9.40	3 GA.	18.00	15.06	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	27.50	22.00	11.00	1.50	1.50	0.250
	45.00	16.00	9.70	0 GA.	19.00	16.06	21.00	0 GA.	29.50	24.00	1.50	1.813	1.50	36.00	29.50	24.00	12.00	1.75	1.50	0.313

POLE AND SIGNAL ARM DATA – HEAVY LOADS																				
LOCATIONS	SIGNAL ARM TUBE				POLE TUBE				POLE BASE				ANCHOR BOLT		SIGNAL ARM ATTACHMENT DATA					
	SPAN (FT)	FIXED END DIA. (IN)	FREE END DIA. (IN)	WALL THK.	BASE DIA. (IN)	TOP DIA. (IN)	LENGTH (FT)	WALL THK.	PLATE CIRCLE "S" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	HOLE "Z" (IN)	DIA. "K" (IN)	EMBED. LENGTH "J" (IN)	"A" (IN)	"B" (IN)	"C" (IN)	"D" (IN)	"E" (IN)	"F" (IN)
	15.00	9.00	6.90	7 GA.	12.00	9.06	21.00	7 GA.	29.50	24.00	1.50	1.813	1.50	36.00	19.00	15.00	7.50	1.00	1.00	0.188
	20.00	12.50	9.70	3 GA.	15.50	12.56	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	24.00	19.00	9.50	1.25	1.25	0.250
	25.00	14.00	10.50	3 GA.	17.00	14.06	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	27.50	22.00	11.00	1.50	1.50	0.250
	30.00	15.50	11.30	3 GA.	18.50	15.56	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	27.50	22.00	11.00	1.50	1.50	0.250
	35.00	16.50	11.60	0 GA.	19.50	16.56	21.00	0 GA.	34.50	28.00	1.75	2.063	1.75	36.00	29.50	24.00	12.00	1.75	1.50	0.313
	40.00	17.50	11.90	0 GA.	20.50	17.56	21.00	0 GA.	34.50	28.00	1.75	2.063	1.75	36.00	29.50	24.00	12.00	1.75	1.50	0.313
	45.00	18.50	12.20	0 GA.	21.50	18.56	21.00	0 GA.	34.50	28.00	1.75	2.063	1.75	36.00	31.50	26.00	13.00	2.00	1.50	0.313



MONTH\_DD\_YYYY ISSUED FOR CONSTRUCTION

**massDOT**  
Standard Drawings  
TYPE II MAST ARMS  
DETAILS

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION  
HIGHWAY DIVISION  
10 PARK PLAZA BOSTON, MASS

*Frank A. Tomlinson* 2/24/2011  
CHIEF ENGINEER

*Charles E. Bordue*  
BRIDGE ENGINEER

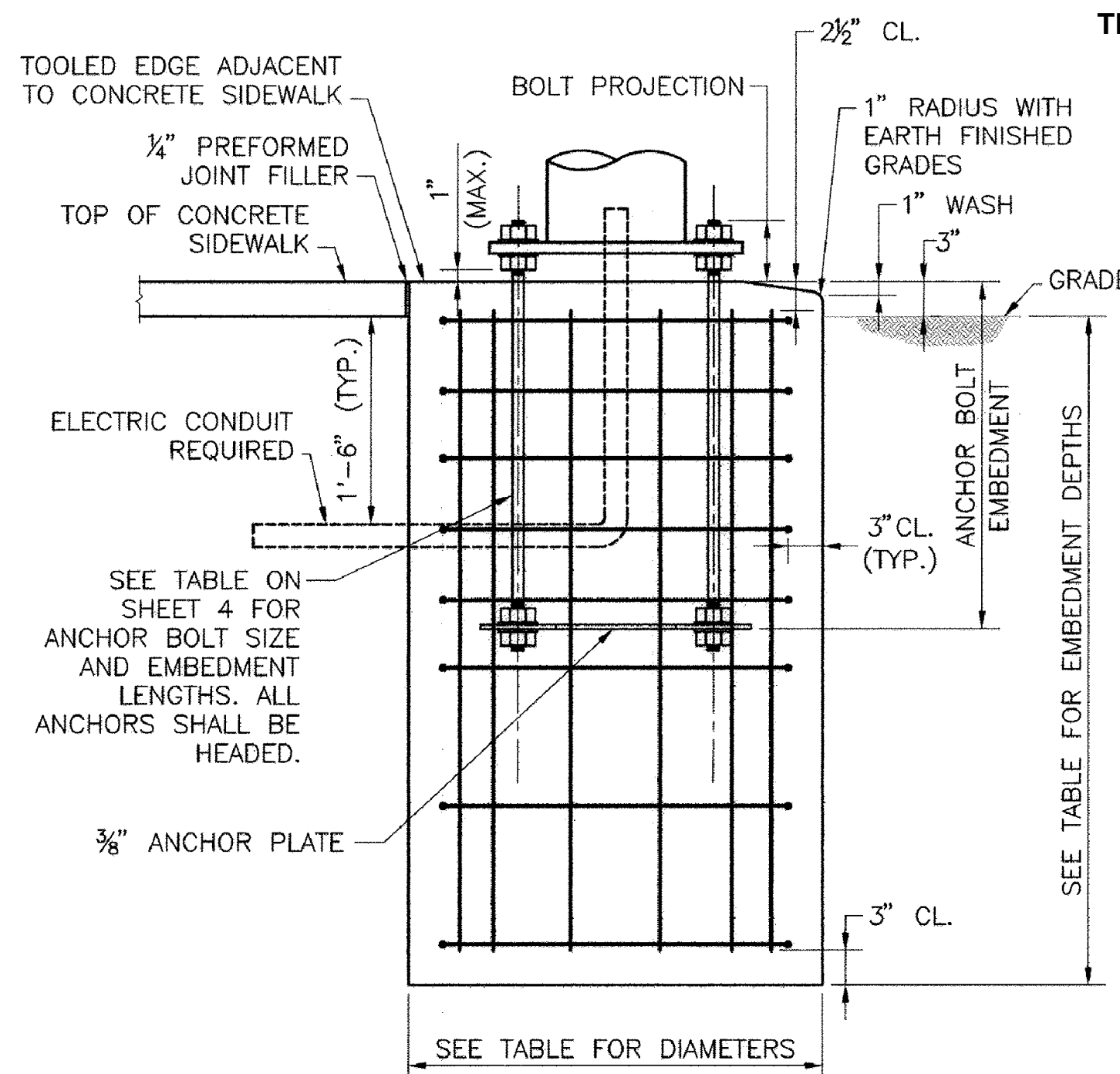
*Neil E. Bordue*  
TRAFFIC ENGINEER

604428\_TR DETAILS.DWG 9 Sep-2014

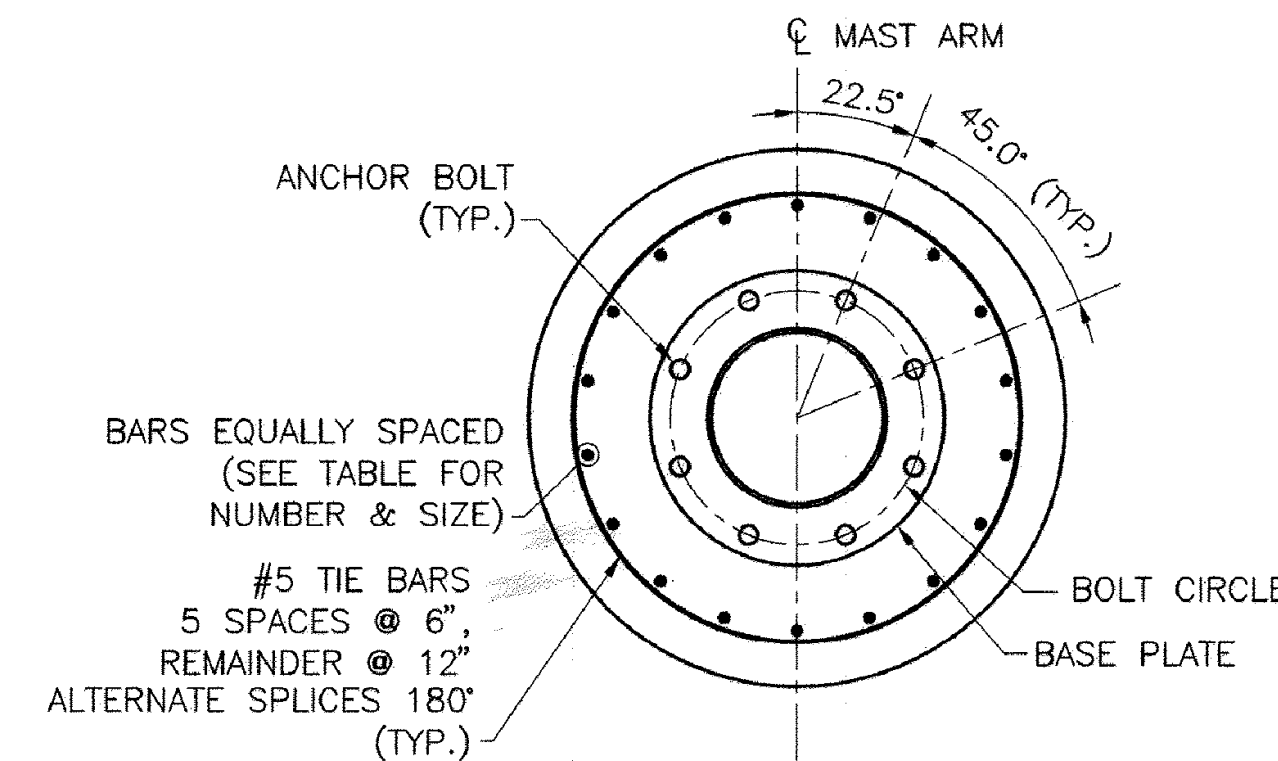
CHLESEA  
SILVER LINE GATEWAY

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	137	346
PROJECT FILE NO.		604428	

TRAFFIC DETAILS - 4 OF 6  
MAST ARM DETAILS



PIER FOUNDATION DETAIL  
NO SCALE



PIER FOUNDATION PLAN  
NO SCALE



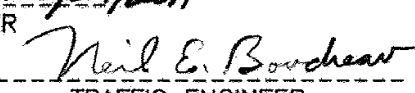
PIER FOUNDATIONS FOR 110 MPH WIND SPEED ZONE											
LIGHT LOADING CONDITIONS											
SOIL TYPE	15' & 20' MAST ARMS			25' & 30' MAST ARMS			35' & 40' MAST ARMS			45' MAST ARMS	
	DIAMETER	DEPTH	VERTICAL BARS	DIAMETER	DEPTH	VERTICAL BARS	DIAMETER	DEPTH	VERTICAL BARS	DIAMETER	DEPTH
DRY SAND	3'-6"	6'-0"	18-#8	3'-6"	8'-0"	18-#8	3'-6"	8'-0"	18-#8	3'-6"	9'-0"
WET SAND	3'-6"	7'-0"	18-#8	3'-6"	9'-0"	18-#8	3'-6"	9'-0"	18-#8	3'-6"	9'-0"
CLAY (MEDIUM STIFF)	3'-6"	11'-0"	18-#8	3'-6"	12'-0"	18-#8	3'-6"	12'-0"	18-#8	3'-6"	12'-0"
ALLUVIAL	3'-6"	8'-0"	18-#8	3'-6"	10'-0"	18-#8	3'-6"	10'-0"	18-#8	3'-6"	11'-0"
MEDIUM LOADING CONDITIONS											
SOIL TYPE	15' & 20' MAST ARMS			25' & 30' MAST ARMS			35' & 40' MAST ARMS			45' MAST ARMS	
	DIAMETER	DEPTH	VERTICAL BARS	DIAMETER	DEPTH	VERTICAL BARS	DIAMETER	DEPTH	VERTICAL BARS	DIAMETER	DEPTH
DRY SAND	3'-6"	7'-0"	18-#8	3'-6"	9'-0"	18-#8	4'-0"	9'-0"	18-#9	4'-6"	8'-0"
WET SAND	3'-6"	8'-0"	18-#8	3'-6"	9'-0"	18-#8	4'-0"	10'-0"	18-#9	4'-6"	9'-0"
CLAY (MEDIUM STIFF)	3'-6"	11'-0"	18-#8	3'-6"	12'-0"	18-#8	4'-0"	13'-0"	18-#9	4'-6"	14'-0"
ALLUVIAL	3'-6"	9'-0"	18-#8	3'-6"	10'-0"	18-#8	4'-0"	11'-0"	18-#9	4'-6"	10'-0"
HEAVY LOADING CONDITIONS											
SOIL TYPE	15' & 20' MAST ARMS			25' & 30' MAST ARMS			35' & 40' MAST ARMS			45' MAST ARMS	
	DIAMETER	DEPTH	VERTICAL BARS	DIAMETER	DEPTH	VERTICAL BARS	DIAMETER	DEPTH	VERTICAL BARS	DIAMETER	DEPTH
DRY SAND	3'-6"	8'-0"	18-#8	4'-0"	9'-0"	18-#9	4'-6"	10'-0"	18-#10	5'-0"	9'-0"
WET SAND	3'-6"	8'-0"	18-#8	4'-0"	10'-0"	18-#9	4'-6"	11'-0"	18-#10	5'-0"	10'-0"
CLAY (MEDIUM STIFF)	3'-6"	12'-0"	18-#8	4'-0"	14'-0"	18-#9	4'-6"	15'-0"	18-#10	5'-0"	16'-0"
ALLUVIAL	3'-6"	10'-0"	18-#8	4'-0"	11'-0"	18-#9	4'-6"	12'-0"	18-#10	5'-0"	12'-0"

\* FOUNDATIONS FOR MAST ARMS AT BUSWAY TRAFFIC SIGNAL

PIER FOUNDATIONS FOR 130 MPH WIND SPEED ZONE											
LIGHT LOADING CONDITIONS											
SOIL TYPE	15' & 20' MAST ARMS			25' & 30' MAST ARMS			35' & 40' MAST ARMS			45' MAST ARMS	
	DIAMETER	DEPTH	VERTICAL BARS	DIAMETER	DEPTH	VERTICAL BARS	DIAMETER	DEPTH	VERTICAL BARS	DIAMETER	DEPTH
DRY SAND	3'-6"	7'-0"	18-#8	3'-6"	9'-0"	18-#8	3'-6"	10'-0"	18-#8	3'-6"	10'-0"
WET SAND	3'-6"	8'-0"	18-#8	3'-6"	10'-0"	18-#8	3'-6"	11'-0"	18-#8	3'-6"	11'-0"
CLAY (MEDIUM STIFF)	3'-6"	12'-0"	18-#8	3'-6"	13'-0"	18-#8	3'-6"	13'-0"	18-#8	3'-6"	13'-0"
ALLUVIAL	3'-6"	9'-0"	18-#8	3'-6"	12'-0"	18-#8	3'-6"	12'-0"	18-#8	3'-6"	13'-0"
MEDIUM LOADING CONDITIONS											
SOIL TYPE	15' & 20' MAST ARMS			25' & 30' MAST ARMS			35' & 40' MAST ARMS			45' MAST ARMS	
	DIAMETER	DEPTH	VERTICAL BARS	DIAMETER	DEPTH	VERTICAL BARS	DIAMETER	DEPTH	VERTICAL BARS	DIAMETER	DEPTH
DRY SAND	3'-6"	8'-0"	18-#8	3'-6"	10'-0"	18-#8	4'-0"	11'-0"	18-#9	4'-6"	10'-0"
WET SAND	3'-6"	8'-0"	18-#8	3'-6"	11'-0"	18-#8	4'-0"	12'-0"	18-#9	4'-6"	11'-0"
CLAY (MEDIUM STIFF)	3'-6"	12'-0"	18-#8	3'-6"	14'-0"	18-#8	4'-0"	15'-0"	18-#9	4'-6"	15'-0"
ALLUVIAL	3'-6"	10'-0"	18-#8	3'-6"	13'-0"	18-#8	4'-0"	13'-0"	18-#9	4'-6"	12'-0"
HEAVY LOADING CONDITIONS											
SOIL TYPE	15' & 20' MAST ARMS			25' & 30' MAST ARMS			35' & 40' MAST ARMS			45' MAST ARMS	
	DIAMETER	DEPTH	VERTICAL BARS	DIAMETER	DEPTH	VERTICAL BARS	DIAMETER	DEPTH	VERTICAL BARS	DIAMETER	DEPTH
DRY SAND	3'-6"	9'-0"	18-#8	4'-0"	11'-0"	18-#9	4'-6"	12'-0"	18-#10	5'-0"	11'-0"
WET SAND	3'-6"	10'-0"	18-#8	4'-0"	12'-0"	18-#9	4'-6"	13'-0"	18-#10	5'-0"	12'-0"
CLAY (MEDIUM STIFF)	3'-6"	14'-0"	18-#8	4'-0"	15'-0"	18-#9	4'-6"	16'-0"	18-#10	5'-0"	17'-0"
ALLUVIAL	3'-6"	11'-0"	18-#8	4'-0"	13'-0"	18-#9	4'-6"	15'-0"	18-#10	5'-0"	14'-0"

NOTES:

- FOUNDATIONS SHALL BE 4000 PSI, 1½", 565 CEMENT CONCRETE.
- REINFORCEMENT SHALL BE ASTM A615 GRADE 60.
- ANCHOR BOLTS SHALL BE SET BY TEMPLATE.
- PROVIDE FOR ELECTRICAL CONDUIT.
- EXCAVATION SHALL BE BY THE AUGER METHOD TO THE NEAT LINES OF THE OUTSIDE DIMENSION OF THE FOUNDATIONS WITHOUT DISTURBING THE SOIL AROUND AND BELOW THE PROPOSED FOUNDATION BOTTOM. ALTERNATE METHODS OF EXCAVATION MAY BE SUBMITTED TO MASSHIGHWAY FOR APPROVAL IF THEY MEET THE REQUIREMENTS LISTED IN NOTES 6, 7, AND 8.
- THE EARTH WALLS OF THE FOUNDATION SHALL BE ADEQUATELY AND SECURELY PROTECTED AT ALL TIMES AGAINST CAVE-INS, DISPLACEMENT OF THE SURROUNDING EARTH AND FOR THE EXCLUSION OF GROUND WATER. THIS MAY BE DONE BY THE USE OF STEEL CYLINDER LINERS OR CASINGS THAT ARE APPROVED BY MASSHIGHWAY. IF LINERS ARE USED THEY MAY BE RECLAIMED PROVIDED THAT THEY ARE WITHDRAWN AS THE CONCRETE IS BEING PLACED, MAINTAINING A SUFFICIENT HEAD OF CONCRETE WITHIN THE LINER TO PREVENT REDUCTION IN THE FOUNDATION DIAMETER AND TO PREVENT EXTRANEOUS MATERIAL FROM FALLING IN FROM THE SIDES AND MIXING WITH THE CONCRETE.
- IF THE SOIL IS DISTURBED OR REMOVED BEYOND THE NEAT LINES OF THE OUTSIDE DIMENSION OF THE FOUNDATION, IT SHALL BE REPLACED WITH CONCRETE. ANY ADDITIONAL COST FOR THE CONCRETE SHALL BE PAID FOR BY THE CONTRACTOR.
- SPECIAL CARE SHOULD BE GIVEN TO AREAS WHERE WET SOIL IS ENCOUNTERED, TO INSURE THAT THE PREAUGERED HOLE DOES NOT COLLAPSE. THIS MAY REQUIRE THE USE OF STEEL CYLINDER LINERS OR CASINGS TO HOLD THE SOIL IN PLACE UNTIL READY FOR CONCRETE PLACEMENT. THE STEEL CYLINDERS OR CASINGS SHALL BE WITHDRAWN AS THE FOUNDATION CONCRETE IS PLACED.
- DETERMINATION OF EXISTING SOIL CONDITIONS SHALL BE MADE BY THE DESIGN ENGINEER.
- IF LEDGE OR POOR SOIL IS ENCOUNTERED (i.e. ONE WHICH DOES NOT APPLY TO THE DESIGN TABLES SHOWN ON THIS SHEET), AN ALTERNATIVE DESIGN SHALL BE PROVIDED BY THE DESIGN ENGINEER. DECISIONS MADE IN NOTES 8 AND 9 SHALL BE SUBMITTED TO MASSHIGHWAY FOR APPROVAL. IF UTILITIES OR OTHER UNDERGROUND OBSTRUCTIONS ARE ENCOUNTERED, THE CONTRACTOR SHALL BACKFILL THE AREA TO ITS ORIGINAL CONDITION UNTIL AN ALTERNATE DESIGN HAS BEEN PROVIDED BY THE ENGINEER.

MONTH_DD_YYYY	ISSUED FOR CONSTRUCTION
 STANDARD DRAWINGS TYPE II MAST ARMS CORED PIER FOUNDATIONS	
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION 10 PARK PLAZA BOSTON, MASS	
 CHIEF ENGINEER	 TRAFFIC ENGINEER

## BOX DISTRICT PLANS

- 01 CAST-IN-PLACE CONCRETE STRUCTURE
- 02 GLASS CANOPY STRUCTURE WITH ALUMINUM LOUVERS / FINS BELOW
- 03 ALUMINUM AND GLASS BUS SHELTER WITH METAL CEILING, LED LIGHTS, HEATER AND SEATING
- 04 TYPE 1 MEDIAN FENCE. REFER TO ARCHITECTURAL DETAILS FOR ADDITIONAL INFO
- 05 ALUMINUM AND GLASS BUS SHELTER WITH METAL CEILING AND LED LIGHTS



CHELSEA  
SILVER LINE GATEWAY

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	202	346
PROJECT FILE NO.		604428	

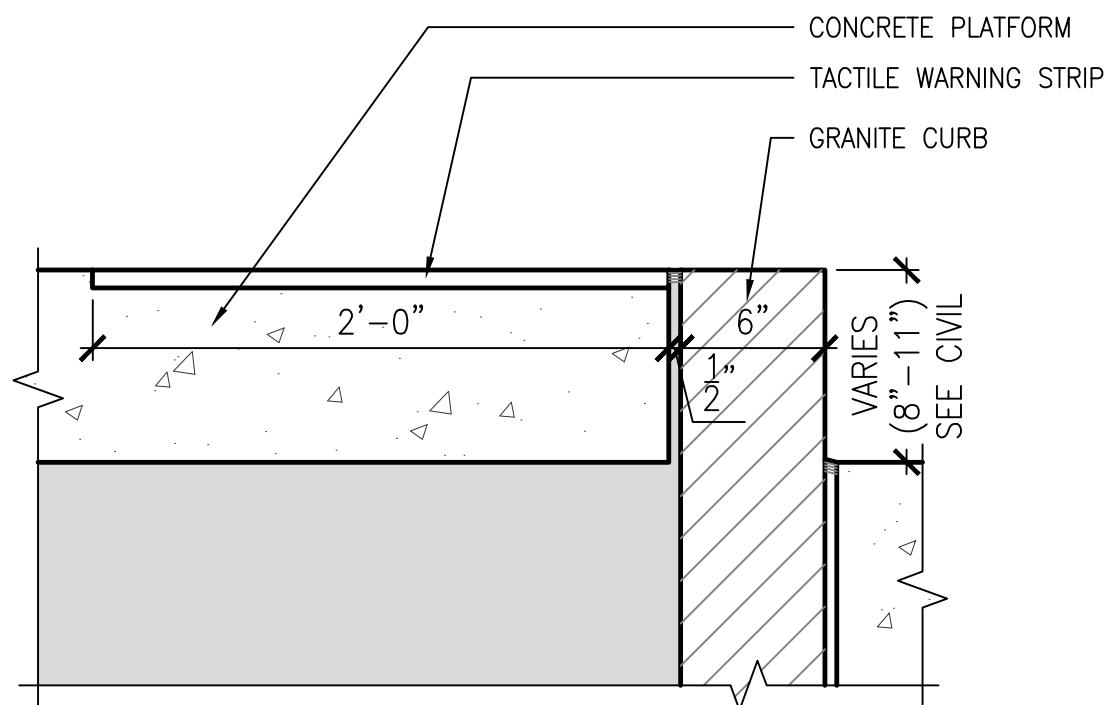
STATION SECTIONS, ELEVATIONS

GENERAL NOTES:

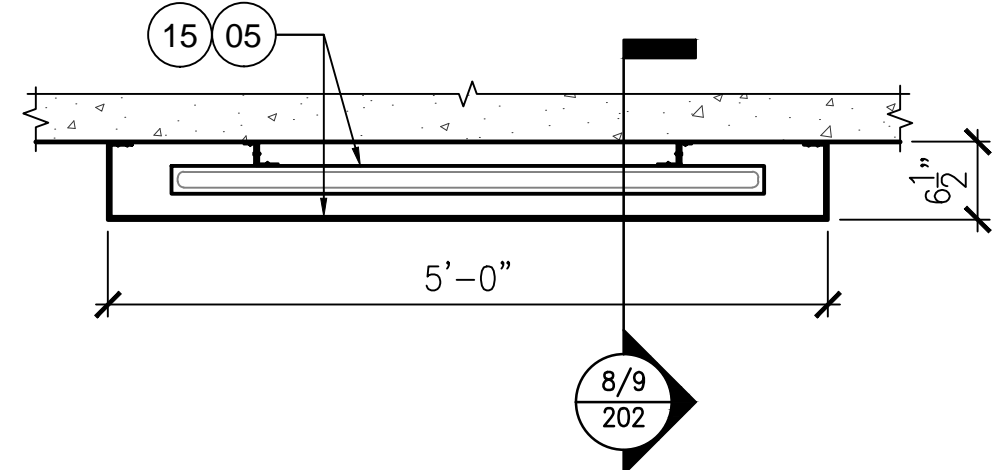
1. REFER TO MAJOR AND MINOR SHELTER SHEETS FOR MORE INFORMATION
2. REFER TO LIGHTING SCHEDULE ON ELECTRICAL DRAWINGS FOR LIGHTING INFORMATION

KEY NOTES:

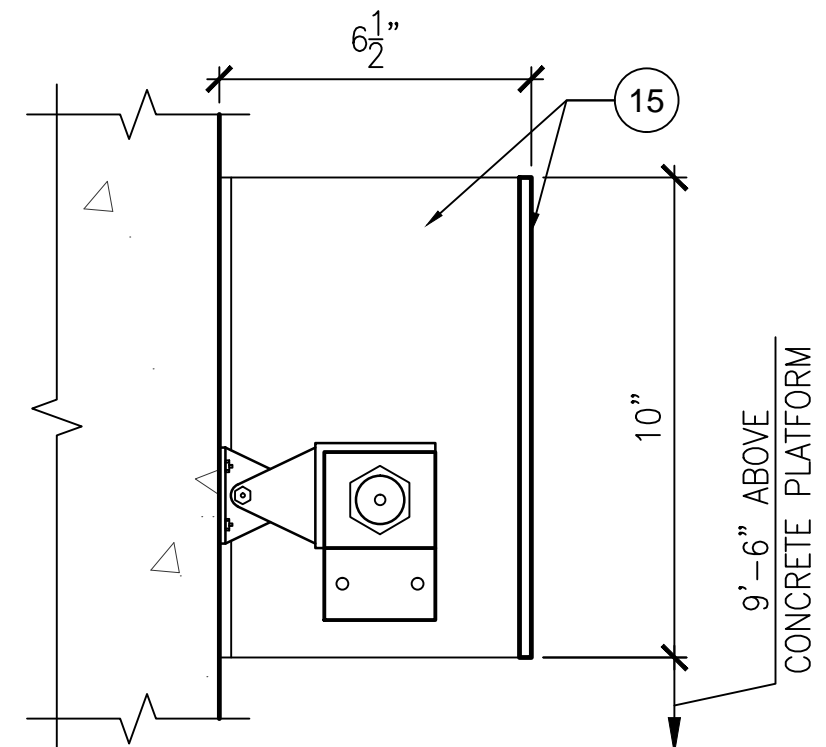
- 01 CAST-IN-PLACE CONCRETE STRUCTURE
- 02 GLASS CANOPY STRUCTURE WITH ALUMINUM LOUVERS / FINS
- 03 ALUMINUM AND GLASS BUS SHELTER WITH METAL CEILING, LED LIGHTS, HEATER AND SEATING
- 04 FARE VENDING MACHINE, REFER TO SITE PLANS FOR QUANTITIES
- 05 WALL MOUNTED STATION LIGHTING WITH STAINLESS STEEL SHROUD, WL-1 & WL-2
- 06 TACTILE WARNING STRIP
- 07 UNIT HEATER
- 08 STATION SIGNAGE, REFER TO SIGNAGE DRAWINGS
- 09 FARE VALIDATOR MACHINE, REFER TO SITE PLANS FOR QUANTITIES
- 10 EMERGENCY CALL BOX
- 11 ALUMINUM AND GLASS SHELTER WITH METAL CEILING & LED LIGHTS
- 12 SURFACE MOUNTED LINEAR STATION LIGHTING, LL1
- 13 STATION SIGNAGE MOUNTED AT EDGE OF SHELTER ROOF, SEE SECTION
- 14 PUSH BUTTON FOR ELECTRIC HEATERS AT SHELTERS
- 15 WALL MOUNTED STATION LIGHTING WITH STAINLESS STEEL SHROUD, WL-2 ONLY
- 16 ALUMINUM FINIS
- 17 PLATFORM CONCRETE SLOPED AT 1/8" PER FOOT MIN. FOR WATER RUN OFF IN DIRECTION AS INDICATED
- 18 BROOM FINISH @ PLATFORM CONCRETE TO BE ORIENTED PERPENDICULAR TO CURB AS ARROW INDICATES



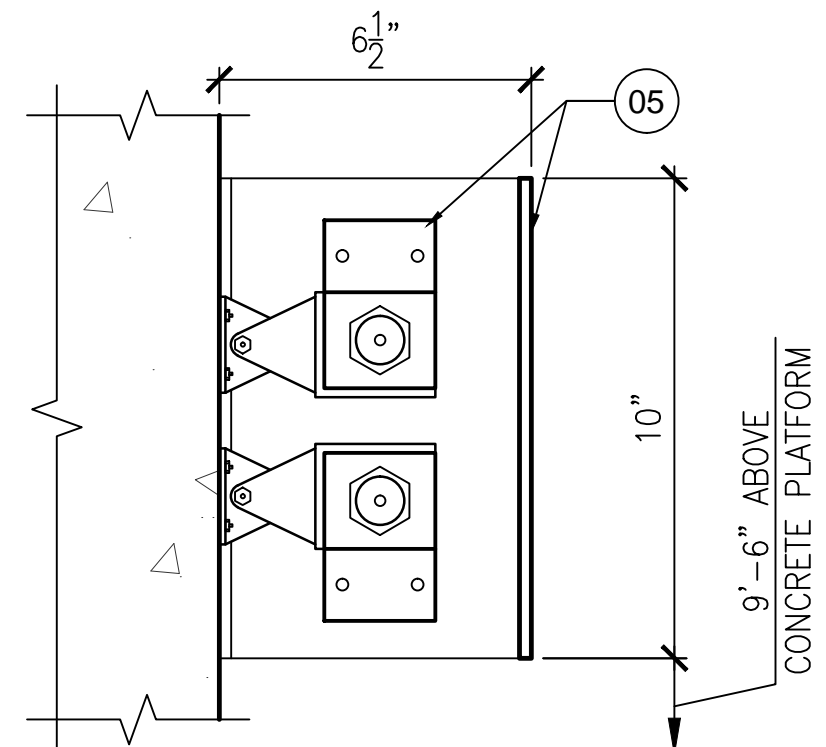
6 TYPICAL DETAIL @ PLATFORM CURB  
1 1/2"=1'-0"



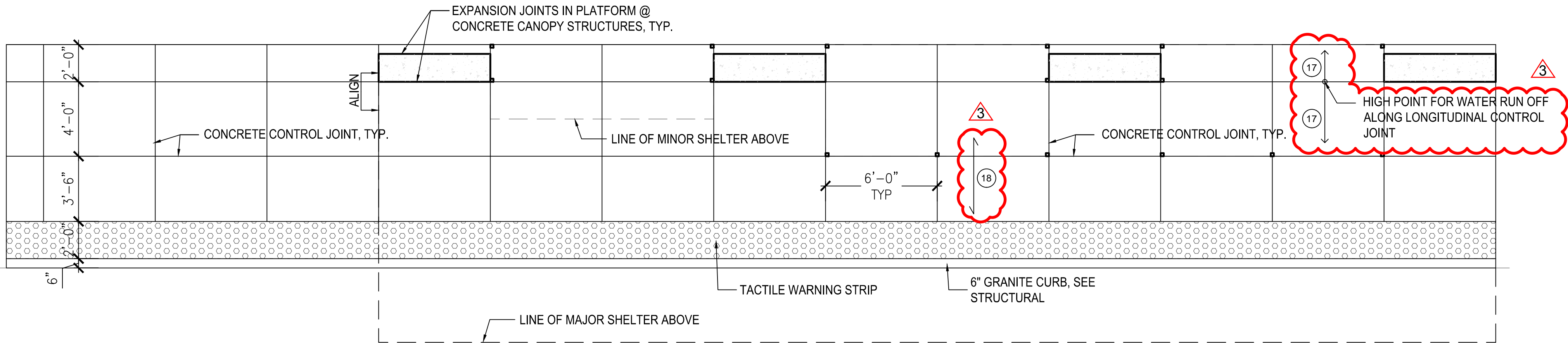
7 PLAN DETAIL @ WALL MOUNTED LIGHT  
3/4"=1'-0"



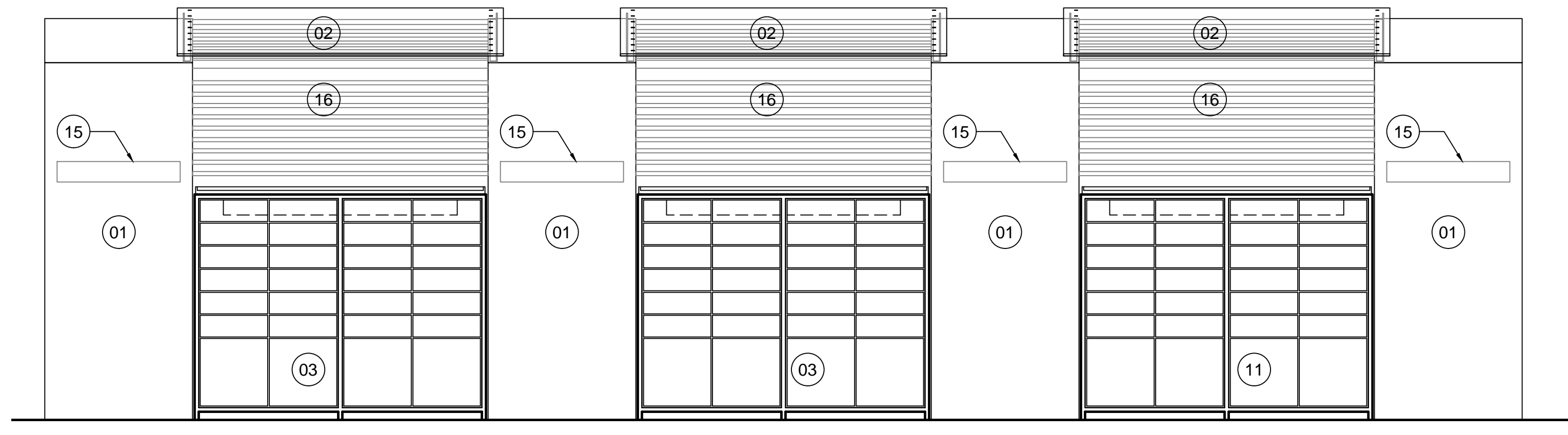
8 SECTION DETAIL @ WALL MOUNTED LIGHT  
3"=1'-0"



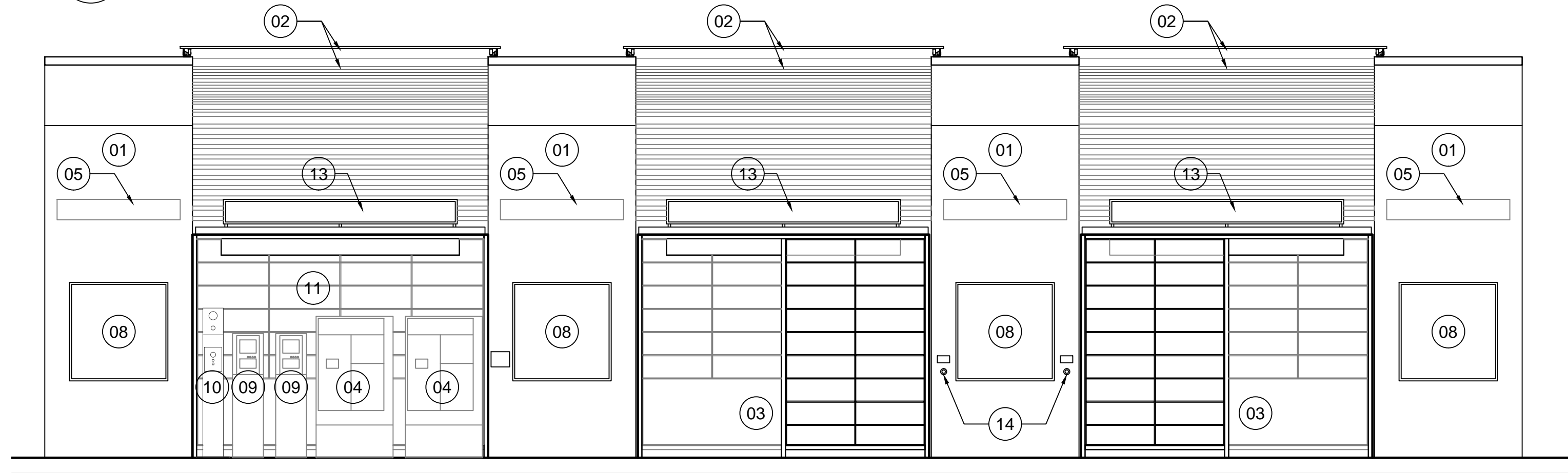
9 SECTION DETAIL @ WALL MOUNTED LIGHTS  
3"=1'-0"



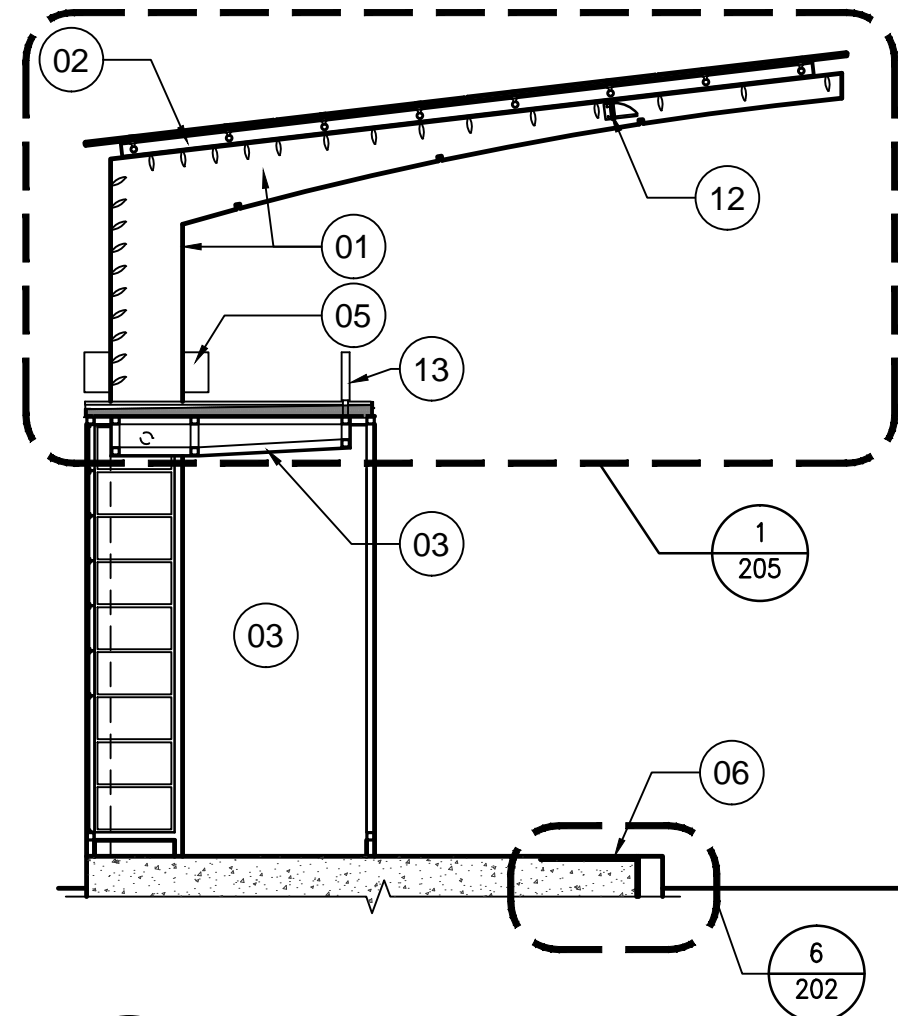
5 TYPICAL PLATFORM FLOOR FINISH PLAN  
1/4"=1'-0"



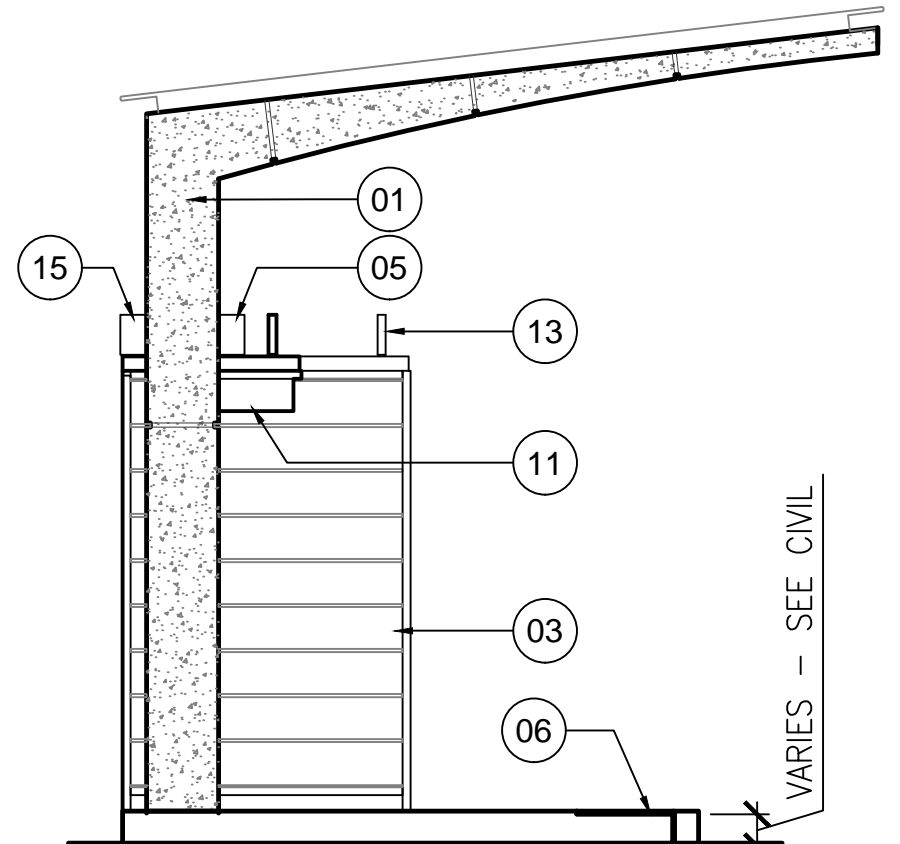
4 TYPICAL STATION REAR ELEVATION  
1/4"=1'-0"



2 TYPICAL STATION BUSWAY-SIDE ELEVATION  
1/4"=1'-0"



3 TYPICAL SECTION THROUGH SHELTER  
1/4"=1'-0"



1 TYPICAL ELEVATION  
1/4"=1'-0"

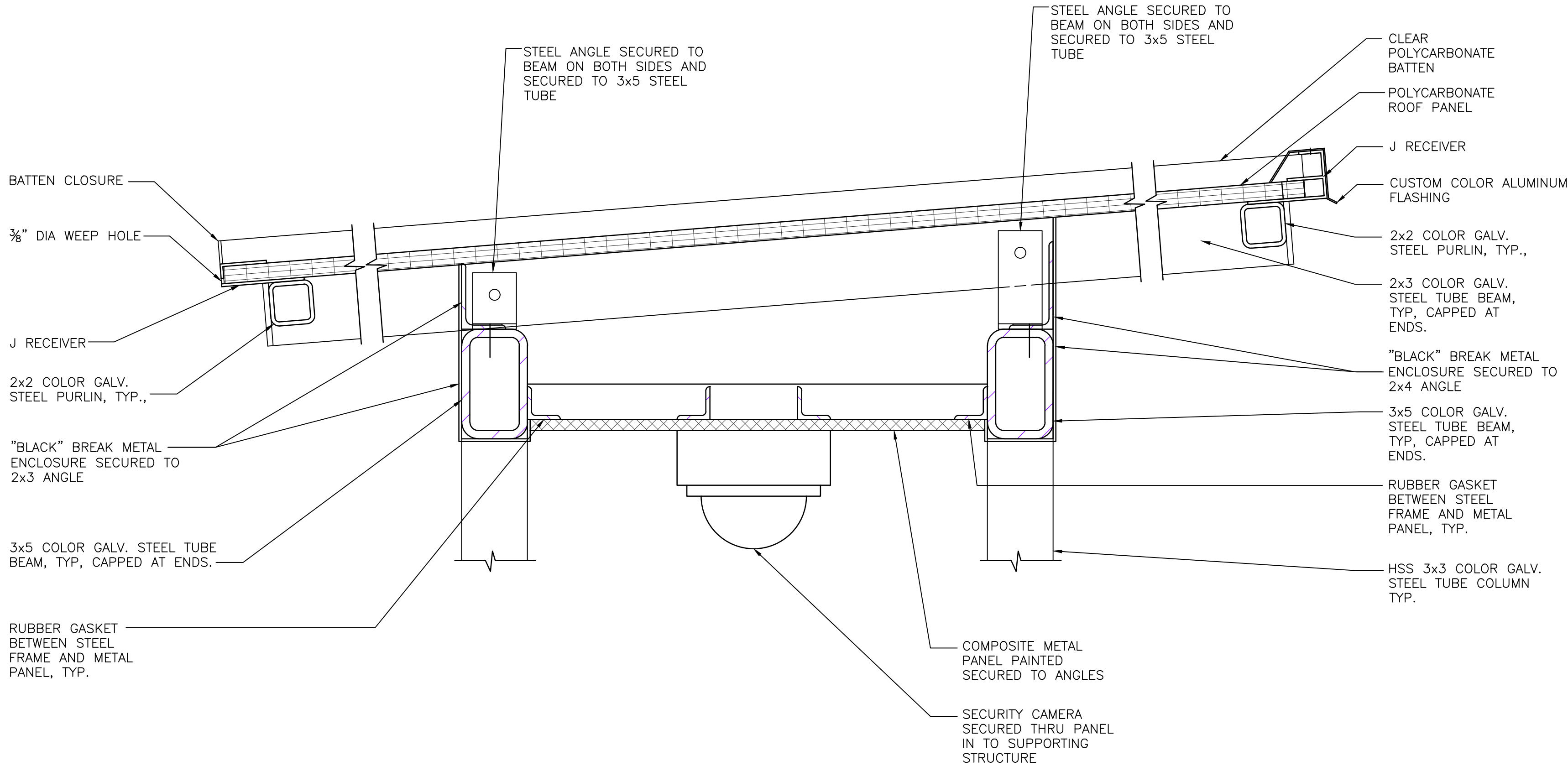
CHelsea  
SILVER LINE GATEWAY

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	208	346
PROJECT FILE NO.		604428	

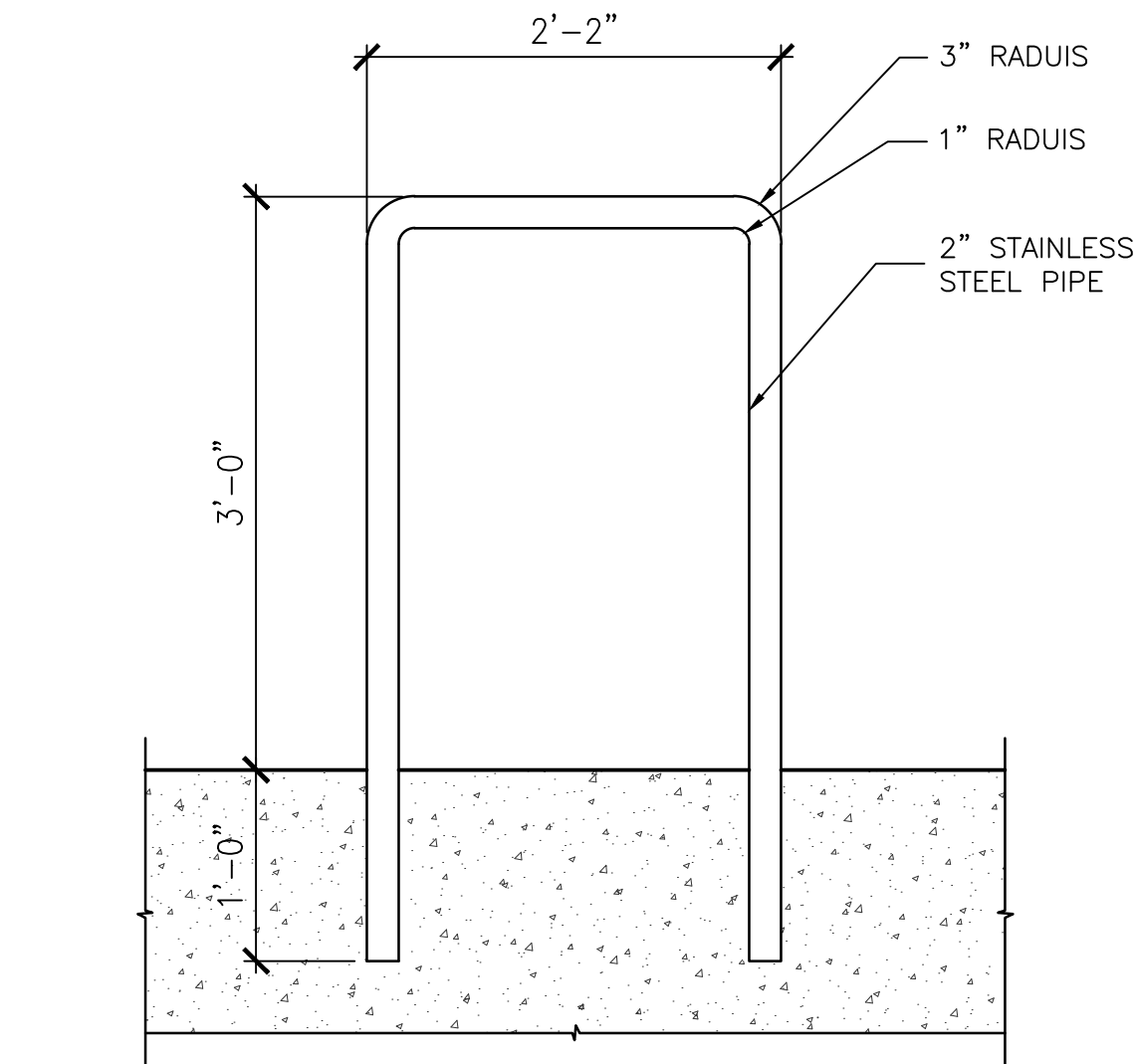
SITE AMENITIES

GENERAL NOTES:

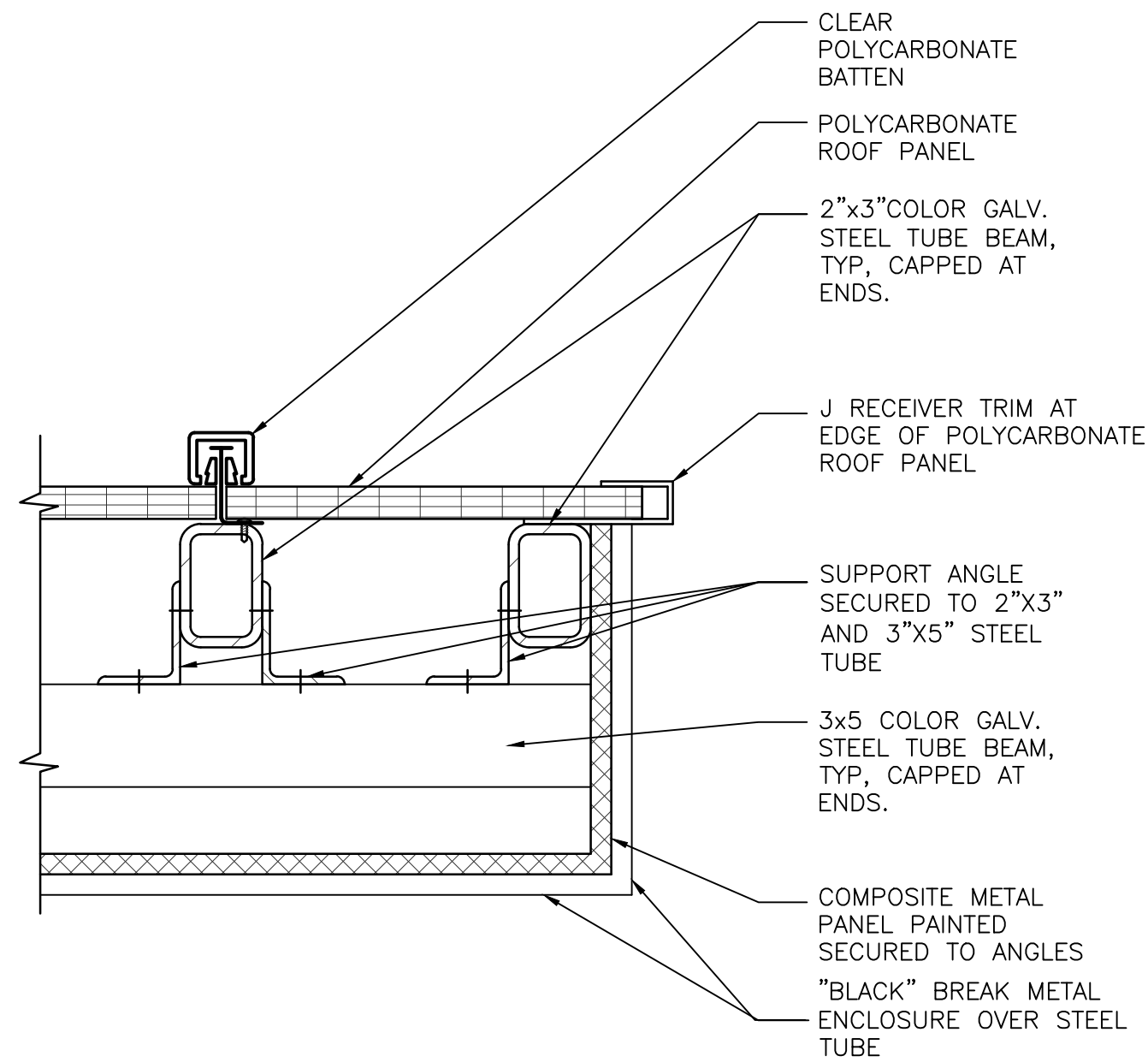
- REFER TO ELECTRICAL DRAWINGS FOR LIGHTING SCHEDULE
- PROVIDE RUBBER GASKET BETWEEN DISSIMILAR METALS, TYP.
- ALL ACCESSORIES FOR POLYCARBONATE PANELS TO BE PROVIDED BY POLYCARBONATE MANUFACTURER.



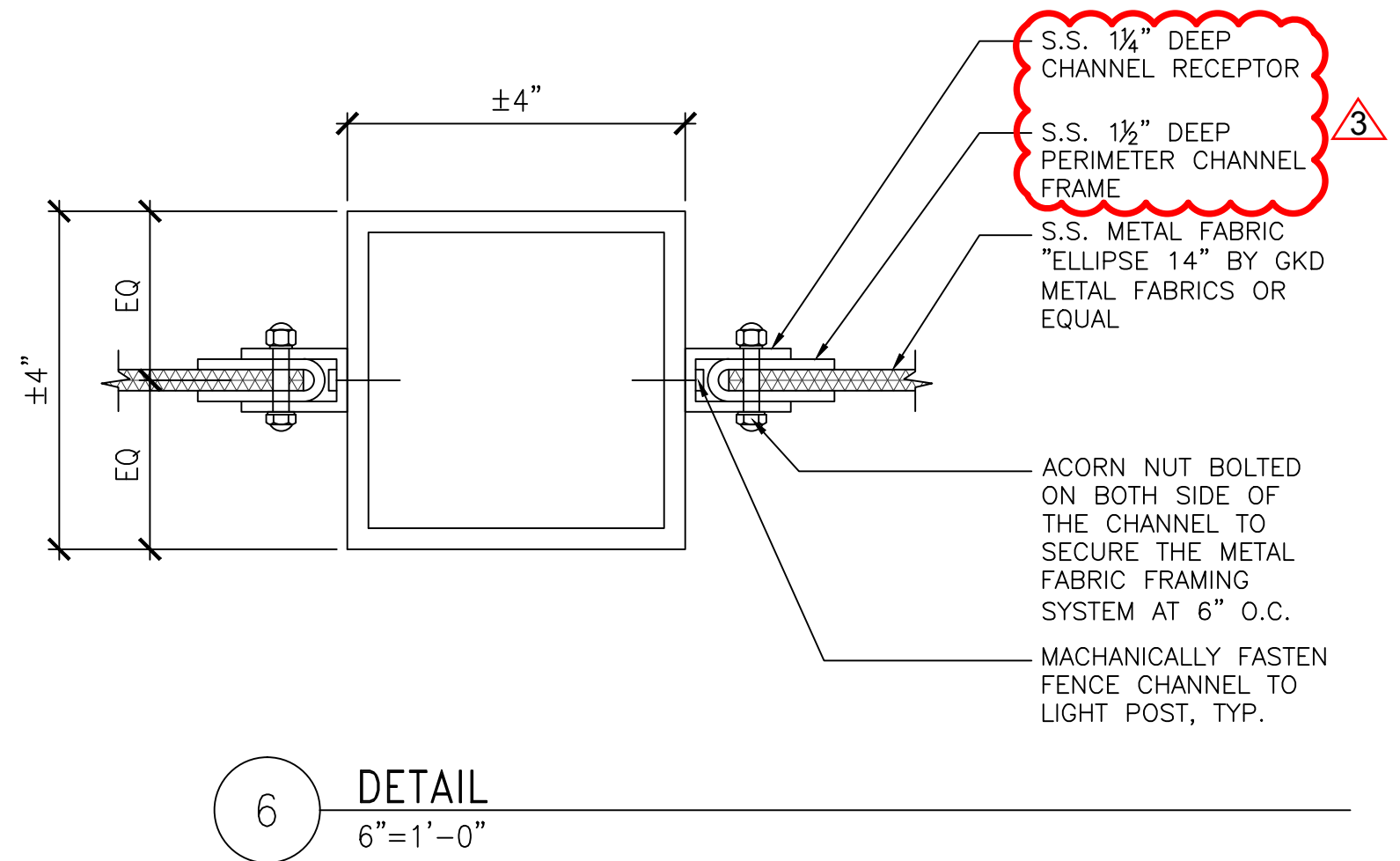
3  
3"=1'-0"



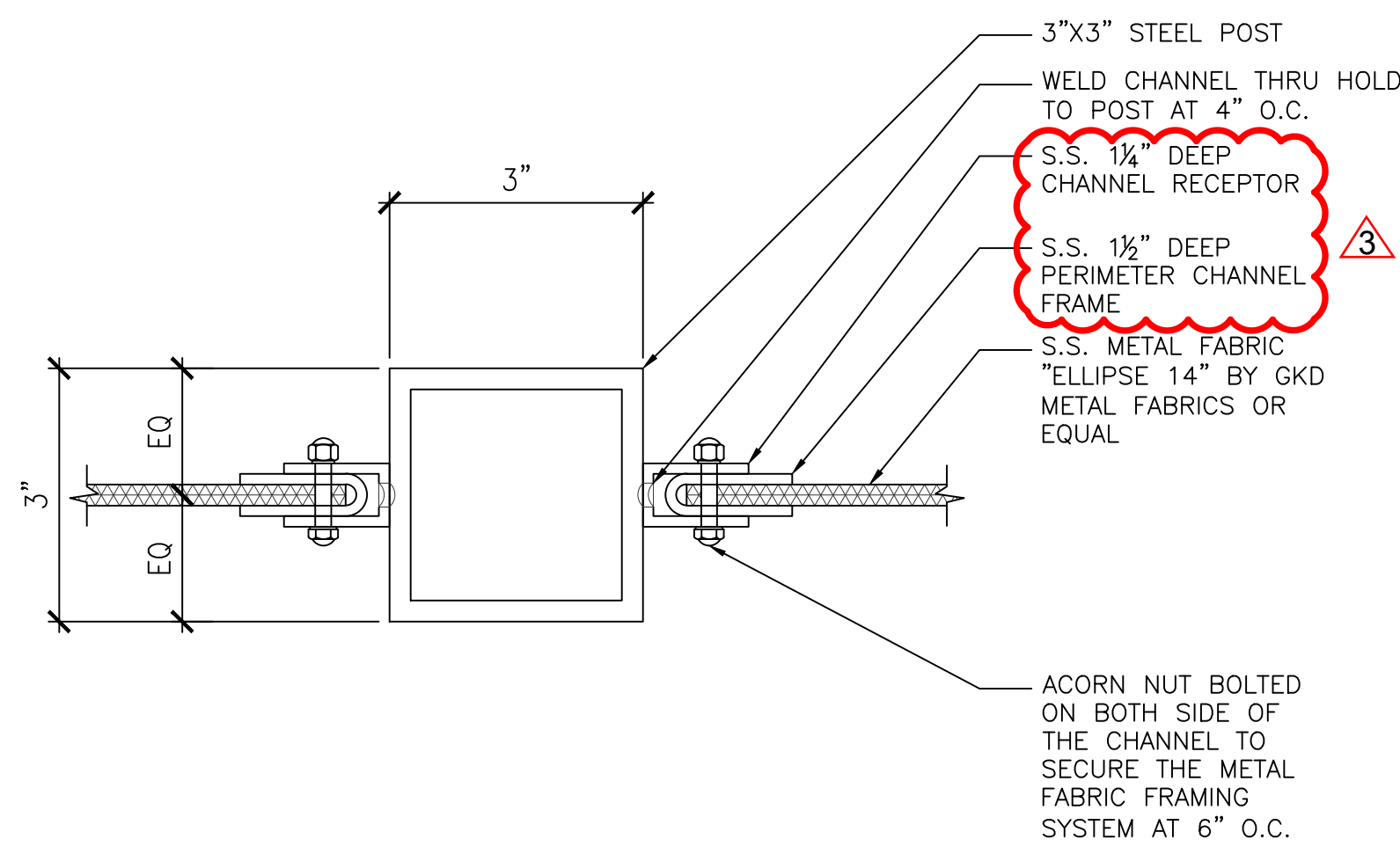
4  
1"=1'-0"



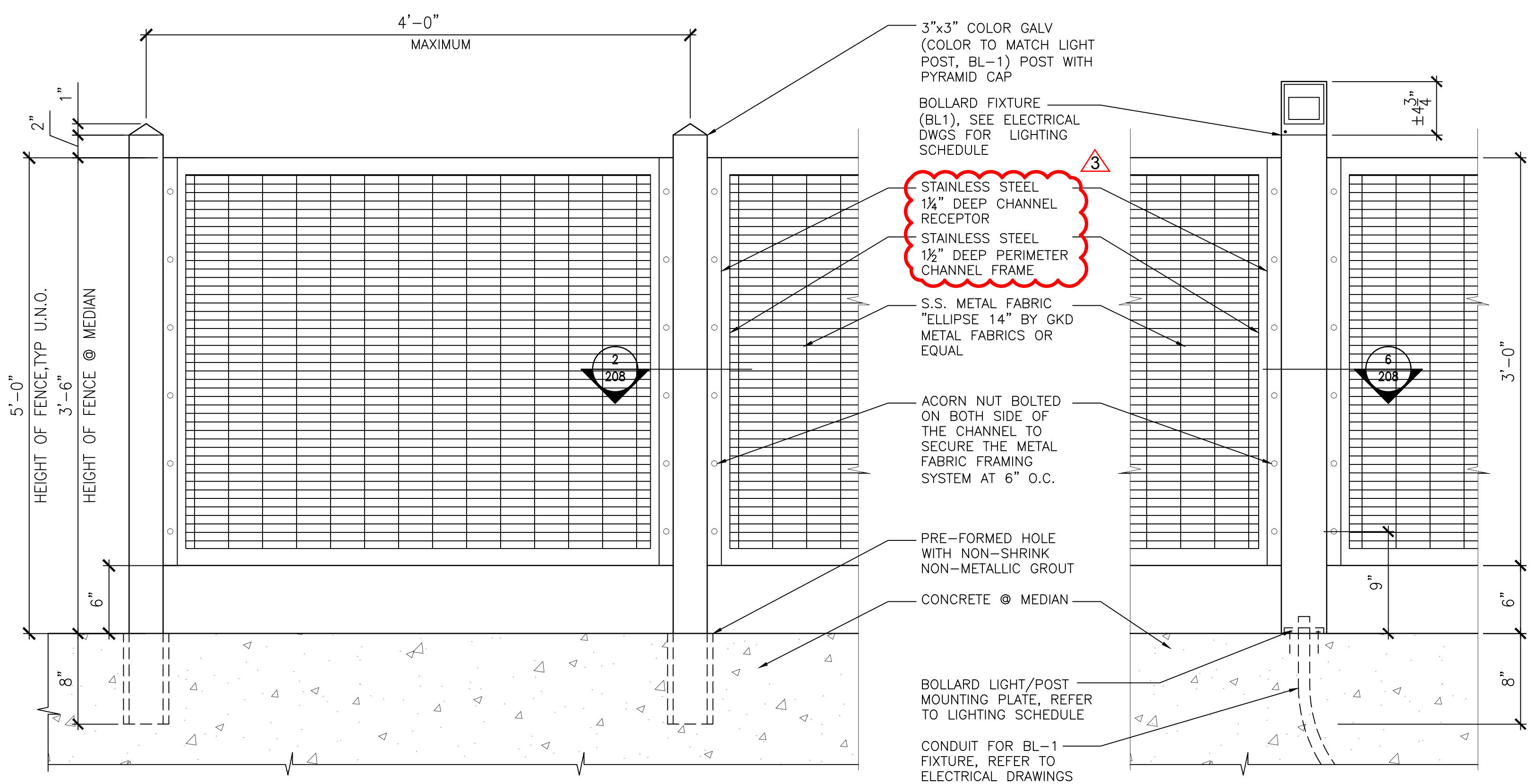
5  
3"=1'-0"



6  
6"=1'-0"



2  
6"=1'-0"



1  
1 1/2"=1'-0"

STATION NAME

SILVER LINE - SL3 STATION TERMINUS

CHELSEA SILVER LINE GATEWAY			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	209	346
PROJECT FILE NO.		604428	

SIGNAGE LOCATIONS & SCHEDULE

GENERAL NOTES:	
1. GRAPHIC ARTWORK FOR ALL SIGNS ARE TO BE PROVIDED BY MBTA FOR FABRICATION.	
2. ALL DIMENSIONS TO BE VERIFIED IN FIELD PRIOR TO FABRICATION.	
KEY NOTES:	
01	STATION ID SIGNAGE, SIGN TYPE 1
02	RAPID TRANSIT LINE MAP, SIGN TYPE 2
03	LINE MAP, SIGN TYPE 3
04	NEIGHBORHOOD MAP, SIGN TYPE 4
05	DISPLAY CASE, SIGN TYPE 5
9	TACTILE BRAILLE SIGN, SIGN TYPE 9
10	VARIABLE MESSAGE DISPLAY, SIGN TYPE 10
11	TACTILE BRAILLE SIGN, SIGN TYPE 13
12	EMERGENCY CALL BOX FLAG SIGN, SIGN TYPE 12, SEE DETAIL 5 ON SHEET 210 FOR ELEVATION

SIGNAGE SCHEDULE							
TYPE	DESCRIPTION	QTY.	MESSAGE	DIMENSIONS	MATERIAL	MOUNTING TYPE	REMARKS
1	ID BAND	3 PER PLATFORM	TBD	12" x 114"	PORCELAIN ENAMEL	POSTED FROM SHELTER, SEE DETAILS 7 & 9 ON SHEET 210	
2	RAPID TRANSIT LINE MAP	1 PER PLATFORM	MAP GRAPHIC - TBD	48" x 48"	SS FRAME, LEXAN SHEET	RECESSED, SEE DETAILS 4, 6 & 8 ON SHEET 210	MAPS TO BE PROVIDED AND INSTALLED BY MBTA
3	LINE MAP	1 PER PLATFORM	MAP GRAPHIC - TBD	48" x 48"	SS FRAME, LEXAN SHEET	RECESSED, SEE DETAILS 4, 6 & 8 ON SHEET 210	MAPS TO BE PROVIDED AND INSTALLED BY MBTA
4	NEIGHBORHOOD MAP	1 PER PLATFORM	MAP GRAPHIC - TBD	48" x 48"	SS FRAME, LEXAN SHEET	RECESSED, SEE DETAILS 4, 6 & 8 ON SHEET 210	MAPS TO BE PROVIDED AND INSTALLED BY MBTA
5	DISPLAY CASE	1 PER PLATFORM	N/A	48" x 48"	STEEL STRUCTURE, ALUMINUM FRAME, CORK	RECESSED, SEE DETAILS 10, 11 & 12 ON SHEET 210	
6	REGULATORY SIGN	4 PER STATION	"NO SMOKING" + GRAPHIC	7" x 7"	ALUMINUM	SURFACE	
7	TRAILBLAZER SIGN	12 PER STATION	TBD, ARROW DIRECTION VARIES	18" x 36"	HIGH INTENSITY SHEETING, W/A DEGREE OF REFLECTIVITY CONFORMING TO ASTM TYPE III - HIGH INTENSITY PRISMATIC - ON ALUMINUM SUBSTRATE		
8	LOLLIPOP SIGN	1-2 PER STATION, SEE SITE PLANS	"T"	39.5" DIA.		POLE	SEE DETAILS ON SHEET 211
9	TACTILE BRAILLE SIGN	1 PER PLATFORM	TBD	7.5" x 9"	ETCHED ZINC	SURFACE	
10	VARIABLE MESSAGE SIGN	1 PER PLATFORM	VARIABLE			SUSPENDED WITH FIXED ROD	DOUBLE-SIDED
11	CALL BOX ICONS 1 & 2	1 PER PLATFORM	FINAL GRAPHIC TBD BY MBTA	6" DIA.		SURFACE - ADHESIVE	
12	CALL BOX FLAG SIGN	1 PER PLATFORM	FINAL GRAPHIC TBD BY MBTA			FLAG MOUNTED	
13	TACTILE BRAILLE SIGN	2 PER PLATFORM	"PUSH FOR HEAT"	3.5" x 6"	ETCHED ZINC	SURFACE	INCLUDE TACTILE BRAILLE MESSAGE

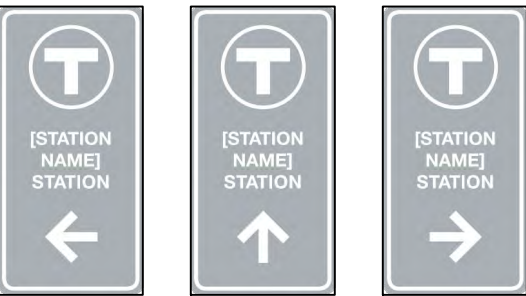
10 ID BAND – SIGN TYPE 1  
NTS



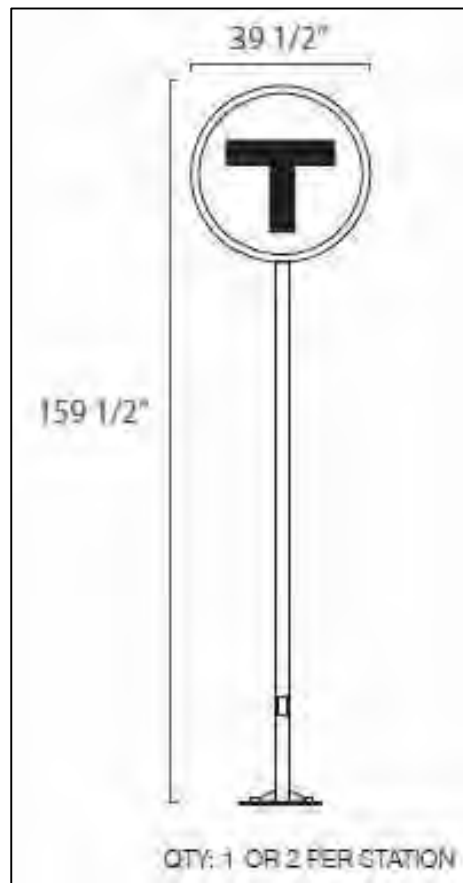
9 CALL BOX FLAG SIGN – SIGN TYPE 12  
NTS



8 REGULATORY SIGN ELEVATION – SIGN TYPE 6  
NTS



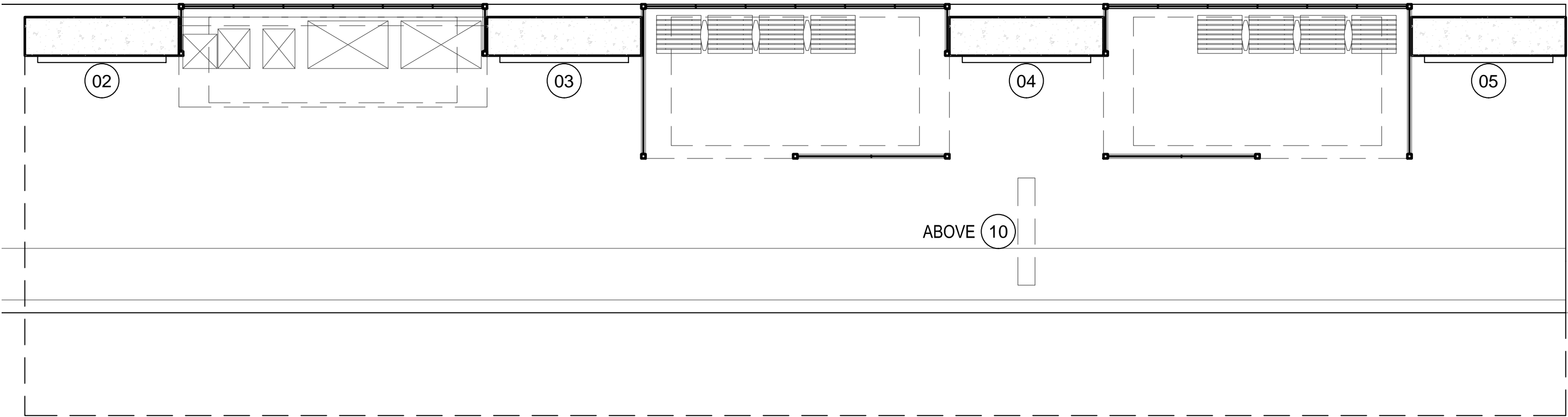
7 TRAILBLAZER SIGN – SIGN TYPE 7  
NTS



6 LOLLIPOP SIGN – SIGN TYPE 8  
NTS



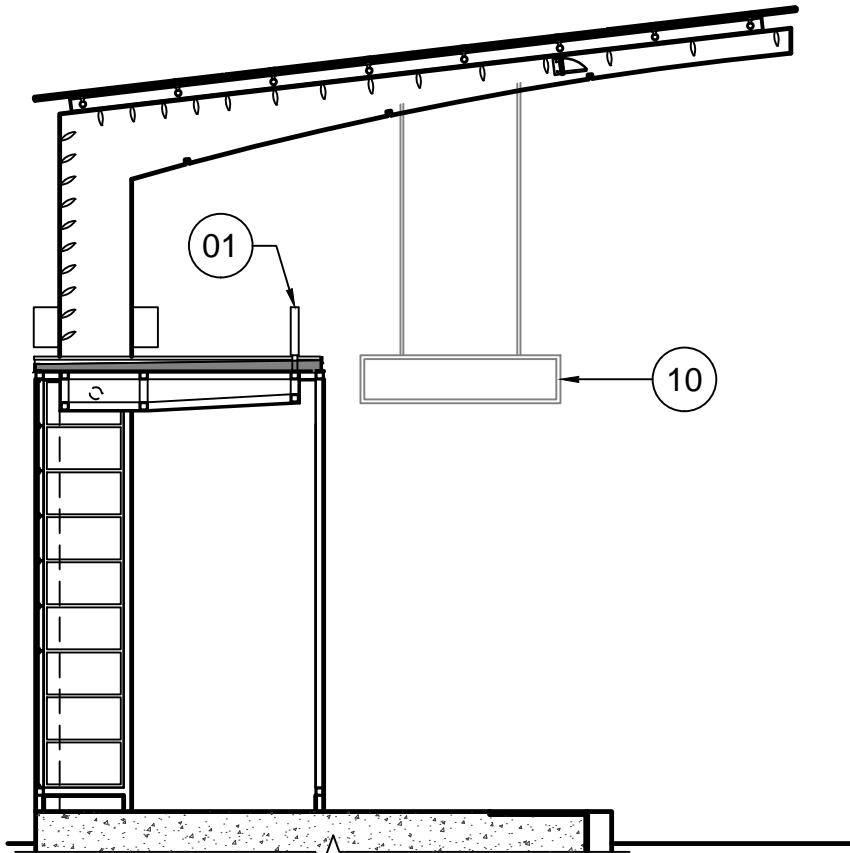
5 TACTILE BRAILLE SIGN – SIGN TYPE 9  
NTS



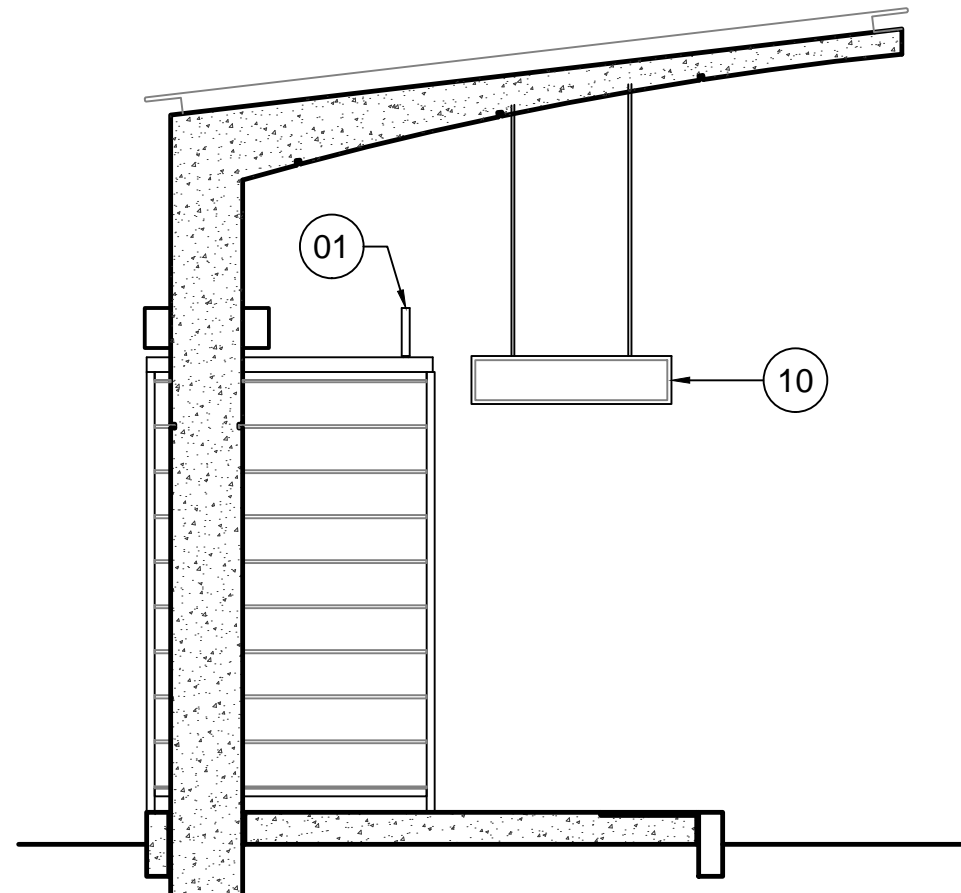
4 TYPICAL STATION FLOOR PLAN  
1/4"=1'-0"



2 TYPICAL STATION BUSWAY-SIDE ELEVATION  
1/4"=1'-0"



3 TYPICAL SECTION THROUGH SHELTER  
1/4"=1'-0"



1 TYPICAL SECTION THROUGH CONCRETE UPRIGHTS  
1/4"=1'-0"

GENERAL NOTES

1. THE INTENT OF THE STRUCTURAL DRAWINGS IS TO SHOW THE MAIN STRUCTURAL FEATURES AND DESIGN FOR THE COMPLETED PROJECT. ARCHITECTURAL DETAILS AND OTHER COMPONENTS THAT MAY BE NECESSARY TO CONSTRUCT THE PROJECT ARE SHOWN INCIDENTALLY ONLY, AND NOT COMPLETELY. THEREFORE, ALL CONTRACT DRAWINGS AND SPECIFICATIONS MUST BE USED IN CONJUNCTION WITH THE STRUCTURAL DRAWINGS DURING ALL PHASES OF CONSTRUCTION. DISCREPANCIES BETWEEN STRUCTURAL DRAWINGS AND ARCHITECTURAL DRAWINGS, IF NOT CLARIFIED IN THE ADDENDA AT THE REQUEST OF THE CONTRACTOR, SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT DURING CONSTRUCTION FOR CLARIFICATIONS. THE CONTRACTOR SHALL TAKE THIS INTO CONSIDERATION IN HIS BID.
2. THE DESIGN IS IN ACCORDANCE WITH THE 8TH EDITION OF THE COMMONWEALTH OF MASSACHUSETTS STATE BUILDING CODE.
3. THE CONTRACTOR SHALL BE COMPLETELY RESPONSIBLE FOR THE SAFETY OF ADJACENT STRUCTURES, PROPERTY AND THE PUBLIC. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL STRUCTURES AGAINST DAMAGE DURING CONSTRUCTION.
4. IN THE EVENT THAT THERE IS A CONFLICT BETWEEN ANY OF THE CODES OR STANDARDS REFERENCED ON THE CONTRACT DOCUMENTS THE STRICTER OR MORE CONSERVATIVE WILL CONTROL.
5. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING, COORDINATING, AND VERIFYING ALL DIMENSIONS.
6. WORK NOT INDICATED ON A PART OF THE DRAWINGS, BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT A CORRESPONDING LOCATION SHALL BE INCLUDED. DETAILS SHOWN ARE APPLICABLE TO ALL SIMILAR CONDITIONS.
7. THE STRUCTURAL DESIGN IS BASED ON THE FULL INTERACTION OF ALL ITS COMPONENT PARTS. IT IS THE SOLE RESPONSIBILITY OF THE CONSTRUCTOR TO MAKE PROPER AND ADEQUATE PROVISIONS FOR STABILITY OF AND ALL TO THE STRUCTURE DUE TO ANY CAUSE DURING CONSTRUCTION.
8. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT WHEN IN THE COURSE OF CONSTRUCTION CONDITIONS ARE UNCOVERED WHICH ARE UNANTICIPATED OR OTHERWISE APPEAR TO PRESENT A DANGEROUS CONDITION.

DESIGN LOADS

ROOF LIVE LOAD . . . . . 20 PSF  
SNOW . . . . . 34 PSF + PLUS DRIFTS  
WIND DESIGN . . . . . IN ACCORDANCE WITH THE MASSACHUSETTS  
STATE BUILDING CODE  
SEISMIC . . . . . IN ACCORDANCE WITH THE MASSACHUSETTS  
STATE BUILDING CODE

FOUNDATIONS

1. REFER TO GEOTECHNICAL REPORTS FOR SUBSURFACE INFORMATION AND DATA AS WELL AS SPECIFIC FOUNDATION CONSTRUCTION AND GROUND IMPROVEMENT REQUIREMENTS.
2. DO NOT PLACE ANY FOUNDATION ELEMENT, FOOTING, BEAM OR WALL IN WATER OR ON FROZEN GROUND, THE USE OF CALCIUM CHLORIDE IS PROHIBITED.
3. FOUNDATIONS ARE DESIGNED FOR AN ALLOWABLE BEARING PRESSURE OF 1.5 KSF

REINFORCED CONCRETE

1. CONCRETE CONSTRUCTION WILL CONFORM TO THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-08) AND TO ACI 301.
2. CONCRETE QUALITY IN ACCORDANCE WITH THE REQUIREMENTS OF THESE DRAWINGS AND SPECIFICATIONS IS ESSENTIAL TO THE STRUCTURAL PERFORMANCE OF THIS STRUCTURE. CONCRETE THAT IS NOT IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS WILL NOT BE ACCEPTED.

ALL CONCRETE SHALL BE CONTROLLED CONCRETE, MIXED AND PLACED UNDER THE SUPERVISION OF AN APPROVED CONCRETE TESTING AGENCY. ALL CONCRETE SHALL BE STONE AGGREGATE, EXCEPT AS INDICATED, AND SHALL DEVELOP THE FOLLOWING STRENGTH AT 28 DAYS:

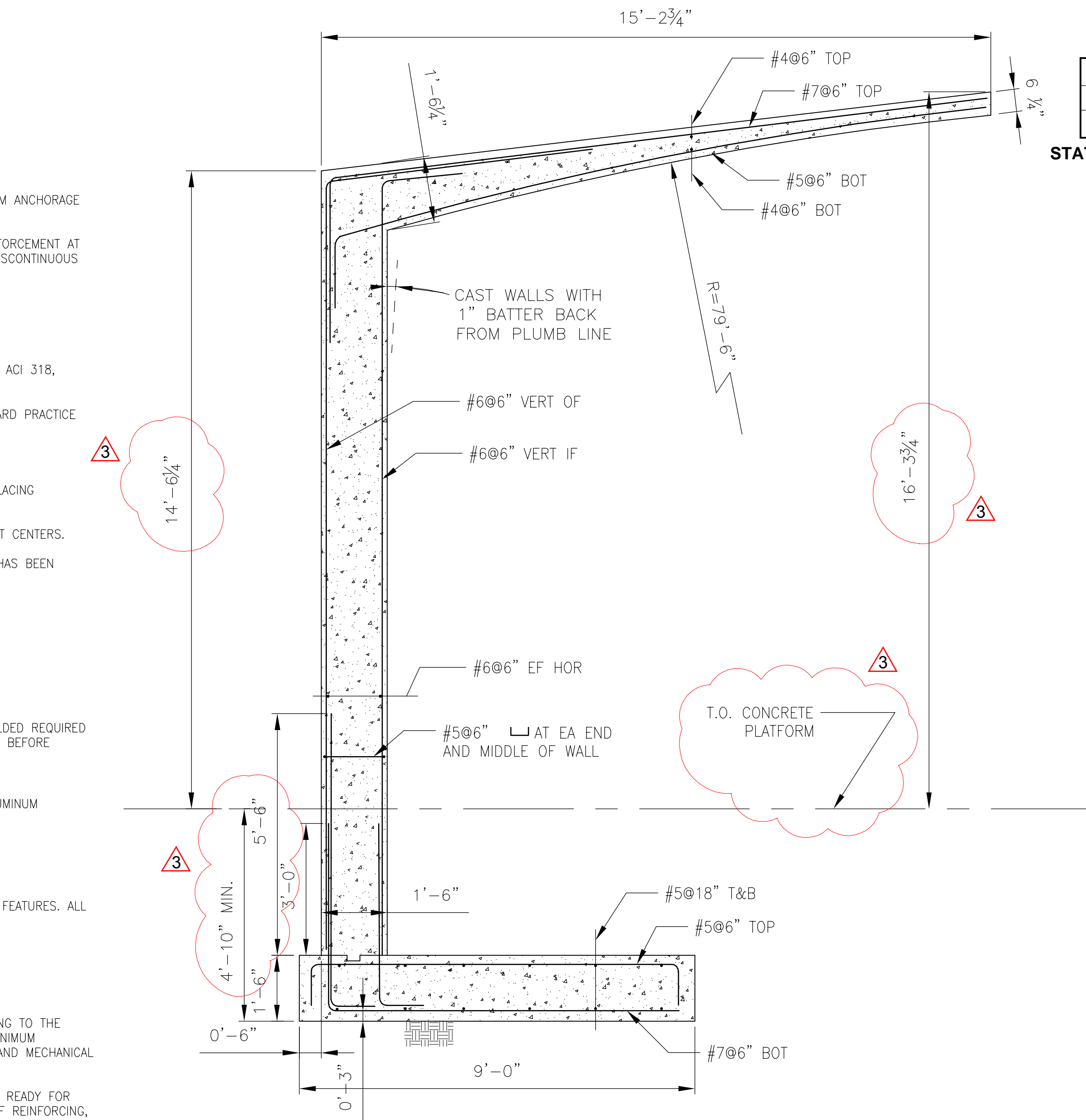
- A. EXTERIOR CONCRETE (AIR-ENTRAINED): 5000 PSI NORMAL WEIGHT.  
ALL CONCRETE THAT IS EXPOSED TO THE WEATHER SHALL CONTAIN AN AIR ENTRAINMENT ADMIXTURE.

CONCRETE MUST REACH THE FOLLOWING PERCENTAGES OF ITS 28-DAY COMPRESSIVE STRENGTH ( $f'_c$ ) BEFORE FORMS OR SHORES MAY BE REMOVED.

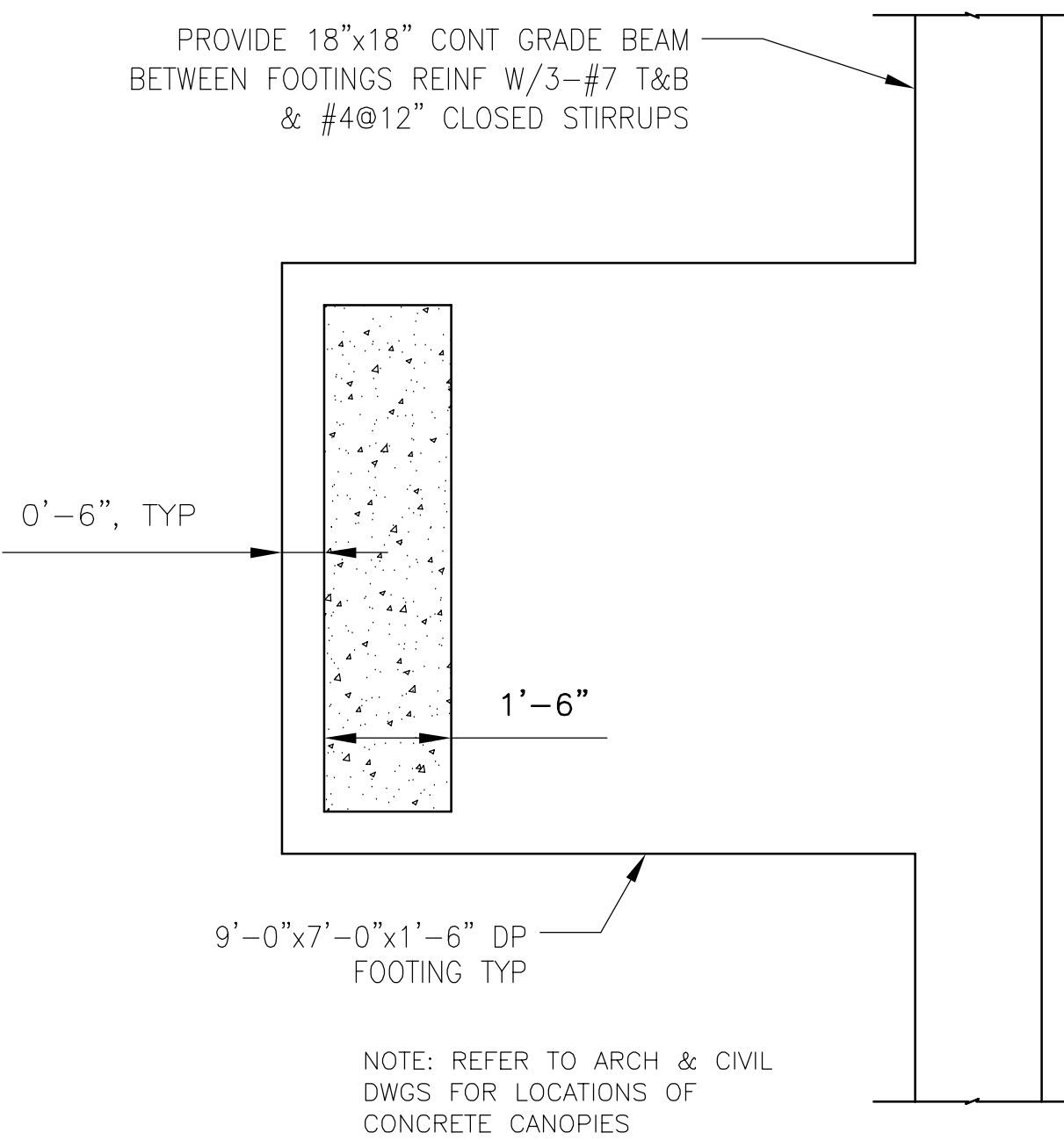
- A. WALLS FOR CANTILEVERS: 90%
- B. CANTILEVER ROOF SLABS: 90%
- C. OTHER WALLS: 50%
- D. OTHER ROOF SLABS: 80%

REINFORCED CONCRETE CONT.

3. REINFORCING BARS SHALL CONFORM TO ASTM A615 WITH 60,000 PSI YIELD STRENGTH, AS INDICATED AND SHALL HAVE THE FOLLOWING CONCRETE COVER, UNLESS NOTED OTHERWISE ON THE DRAWINGS:
  - A. SURFACES PLACED IN CONTRACT WITH THE GROUND 3"
  - B. FORMED SURFACE EXPOSED TO GROUND 2"
  - C. PRIMARY REINFORCING EXPOSED TO WEATHER 2"
  - D. TIES (#4) EXPOSED TO GROUND OR WEATHER 1½"
4. PROVIDE CLASS B SPLICE FOR ALL CONTINUOUS REINFORCEMENT, UNLESS OTHERWISE INDICATED. 30. MINIMUM ANCHORAGE AND SPLICE REQUIREMENTS FOR REINFORCING BARS SHALL BE ACCORDING TO ACI 318
5. IN SLABS AND BEAMS, LAP CONTINUOUS BOTTOM REINFORCEMENT AT SUPPORTS AND CONTINUOUS TOP REINFORCEMENT AT THE CENTER OF A SPAN. WHERE CONCRETE COVER PERMITS, PROVIDE STANDARD HOOK FOR TOP BARS AT DISCONTINUOUS ENDS.
6. PROVIDE BAR SUPPORTS, SPACERS AND ACCESSORIES RECOMMENDED IN THE ACI DETAILING MANUAL 1988, PUBLICATION SP-66. ALL REINFORCEMENT DETAILING, LAP SPLICES AND EMBEDMENT WILL CONFORM TO THIS MANUAL. ALL ACCESSORIES, SUCH AS SLAB BOLSTERS AND BEAM AND SLAB CHAIRS IN CONTACT WITH EXPOSED SURFACES WILL BE PLASTIC-COATED.
7. PROVIDE TEMPERATURE REINFORCEMENT IN ALL CONCRETE MATS AND SLABS AND WALL IN ACCORDANCE WITH ACI 318, UNLESS OTHERWISE SHOWN ON DRAWINGS.
8. DETAILING OF REINFORCEMENT SHALL BE ACCORDING TO THE LATEST EDITION OF ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".
9. ALL REINFORCING WILL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS.
10. PROVIDE DOWELS IN FOOTING TO MATCH WALL REINFORCEMENT. SET AND TIE ALL REINFORCEMENT BEFORE PLACING CONCRETE. SETTING DOWELS AND REINFORCEMENT INTO WET CONCRETE IS PROHIBITED.
11. WELDED WIRE FABRIC WILL CONFORM TO ASTM A185; LAP TWO SQUARES AT ALL SPLICES AND TIE AT 3-FOOT CENTERS.
12. NO CONCRETE SHALL BE CAST BEFORE REVIEW AND APPROVAL OF THE REINFORCING AND EMBEDDED ITEMS HAS BEEN OBTAINED FROM THE ARCHITECT.
13. LOCATE CONSTRUCTION JOINTS IN ROOFS NEAR THE THIRD POINTS OF THE SPANS OF SLABS
14. ALL KEYS SHALL BE 2"x6" (NOMINAL) UNLESS SHOWN OTHERWISE ON DRAWINGS.
15. EXPOSED EDGE OF CONCRETE ELEMENTS, WILL HAVE 3/4-INCH CHAMFER.
16. CONCRETE FINISH WILL BE AS SPECIFIED IN SECTION 03300, CAST-IN-PLACE CONCRETE.
17. NOT ALL OPENINGS THROUGH CONCRETE SLABS AND WALLS ARE SHOWN ON STRUCTURAL DRAWINGS. ALL WELDED REQUIRED INSERTS, SLEEVES, CONDUITS, EMBEDMENTS, AND PENETRATIONS MUST BE VERIFIED WITH RESPECTIVE TRADES BEFORE CASTING CONCRETE.
18. PIPES OR CONDUITS PLACED IN CONCRETE SHALL NOT BE PLACED CLOSER THAN 3 DIAMETERS OR WIDTHS ON CENTER AND SHALL HAVE AN OUTSIDE DIAMETER LESS THAN 1/3 OF THE SLAB THICKNESS. ALUMINUM CONDUITS SHALL NOT BE PLACED IN CONCRETE.
19. FLOOR AND ROOF SLOPES WILL BE AN INTEGRAL PART OF STRUCTURAL SLABS. SEPARATE CONCRETE FILL IS NOT PERMITTED UNLESS SPECIFICALLY INDICATED ON THE STRUCTURAL DRAWINGS.
20. SEE ARCHITECTURAL DRAWINGS FOR FINISHES, DEPRESSIONS, REGLETS, NOTCHES AND OTHER ARCHITECTURAL FEATURES. ALL CONCRETE EXPOSED TO PUBLIC SHALL BE CONSIDERED ARCHITECTURALLY EXPOSED CONCRETE.
21. PROVIDE SEALANT JOINT FOR ALL EXPOSED TO VIEW CONSTRUCTION JOINTS, CONTROL JOINTS AND SHEAR KEYS.
22. COORDINATE AND SET EMBEDDED PLATES REQUIRED FOR CONNECTION OF WORK BY OTHERS.
23. PROVIDE CONCRETE PADS FOR MECHANICAL EQUIPMENT AND PREENGINEERED PASSENGER SHELTERS ACCORDING TO THE REQUIREMENTS OF THE MANUFACTURER AND IN ACCORDANCE WITH THE TYPICAL DETAILS. ALWAYS PROVIDE MINIMUM REINFORCEMENT FOR PADS, UNLESS NOTED OTHERWISE. COORDINATE LOCATIONS WITH ARCHITECTURAL, CIVIL AND MECHANICAL DRAWINGS.
24. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OR TESTING AGENCY THAT REINFORCEMENT IS COMPLETE AND READY FOR INSPECTION AT LEAST 24 HRS IN ADVANCE OF CONCRETE PLACEMENT PRIOR TO REQUESTING INSPECTION OF REINFORCING, THE CONTRACTOR SHALL HAVE COMPLETED ALL NECESSARY WORK INCLUDING THE WORK OF THE TRADES.



2 SECTION  
Scale: 1/2"=1'-0"

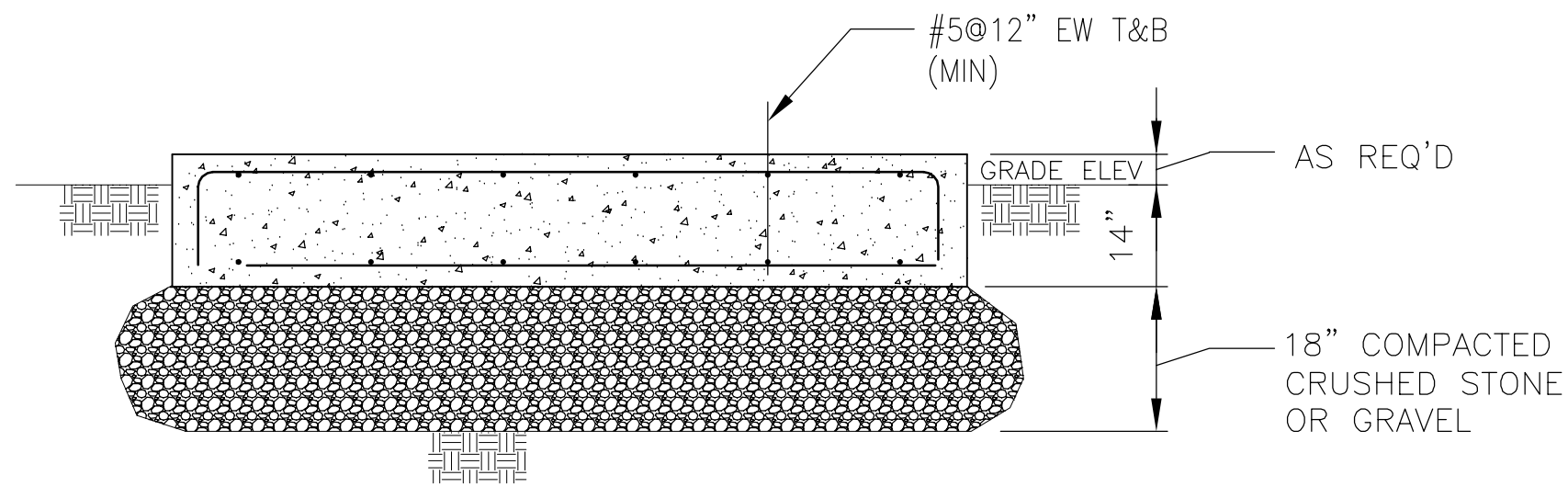


FOOTING PLAN @ CANTILEVER

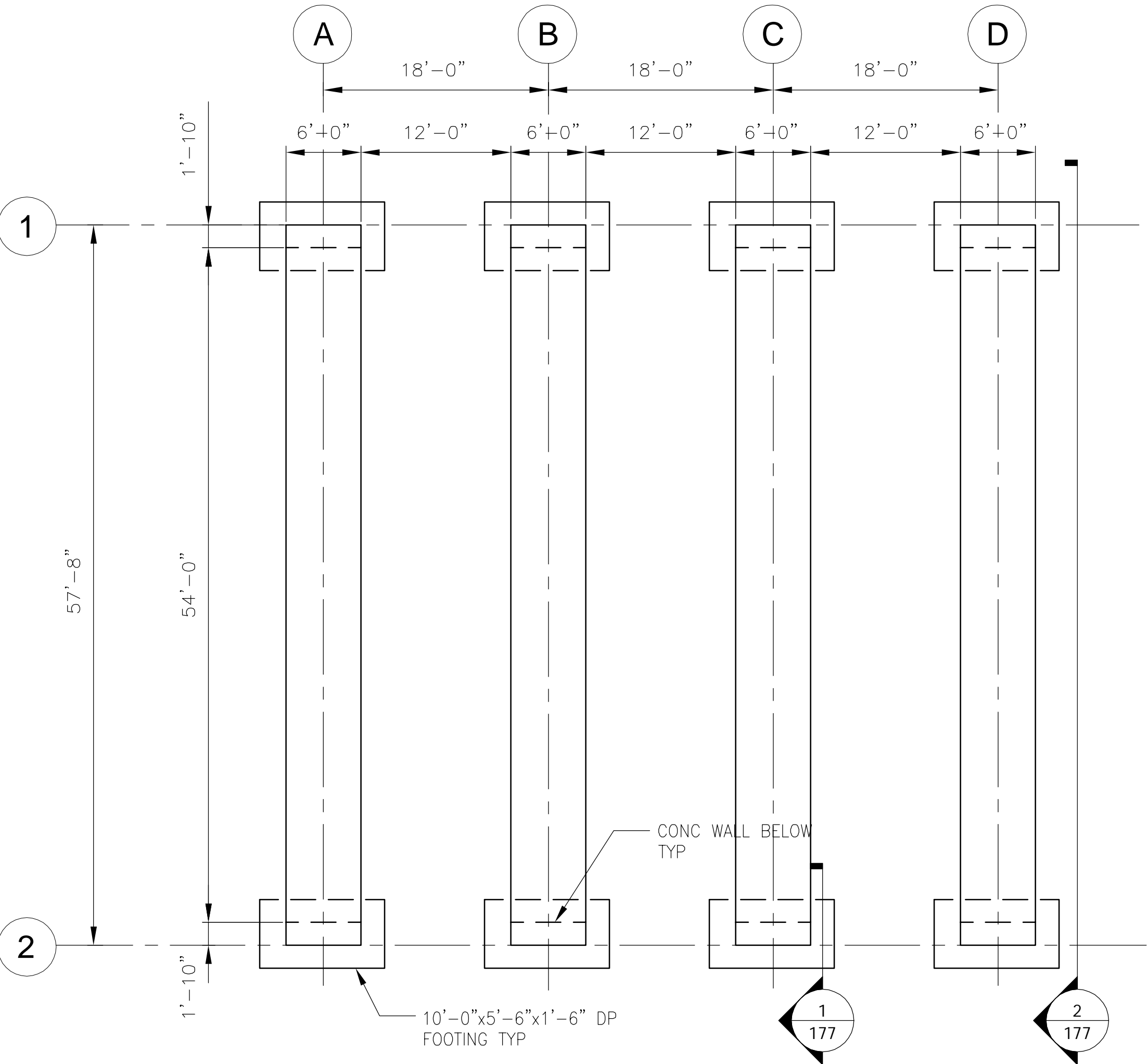
SCALE 1/4"=1'-0"

CHELSEA SILVER LINE GATEWAY			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	212	346
PROJECT FILE NO.		604428	

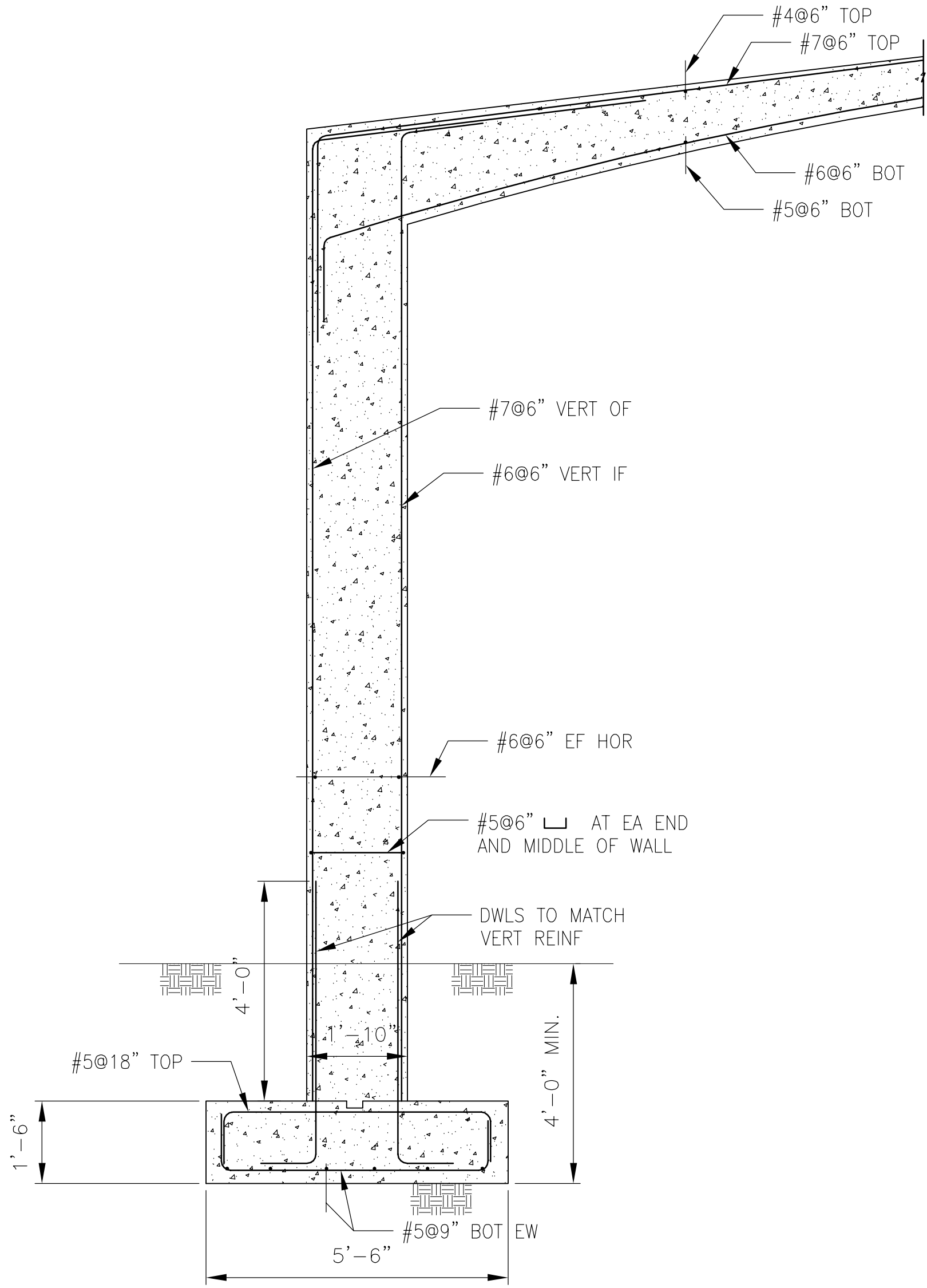
STATION PLANS, SECTIONS, ELEVATIONS



A TYPICAL DETAIL CONC PAD/MAT  
Scale: 1/2"=1'-0"



PLAN  
SCALE 1/8"=1'-0"

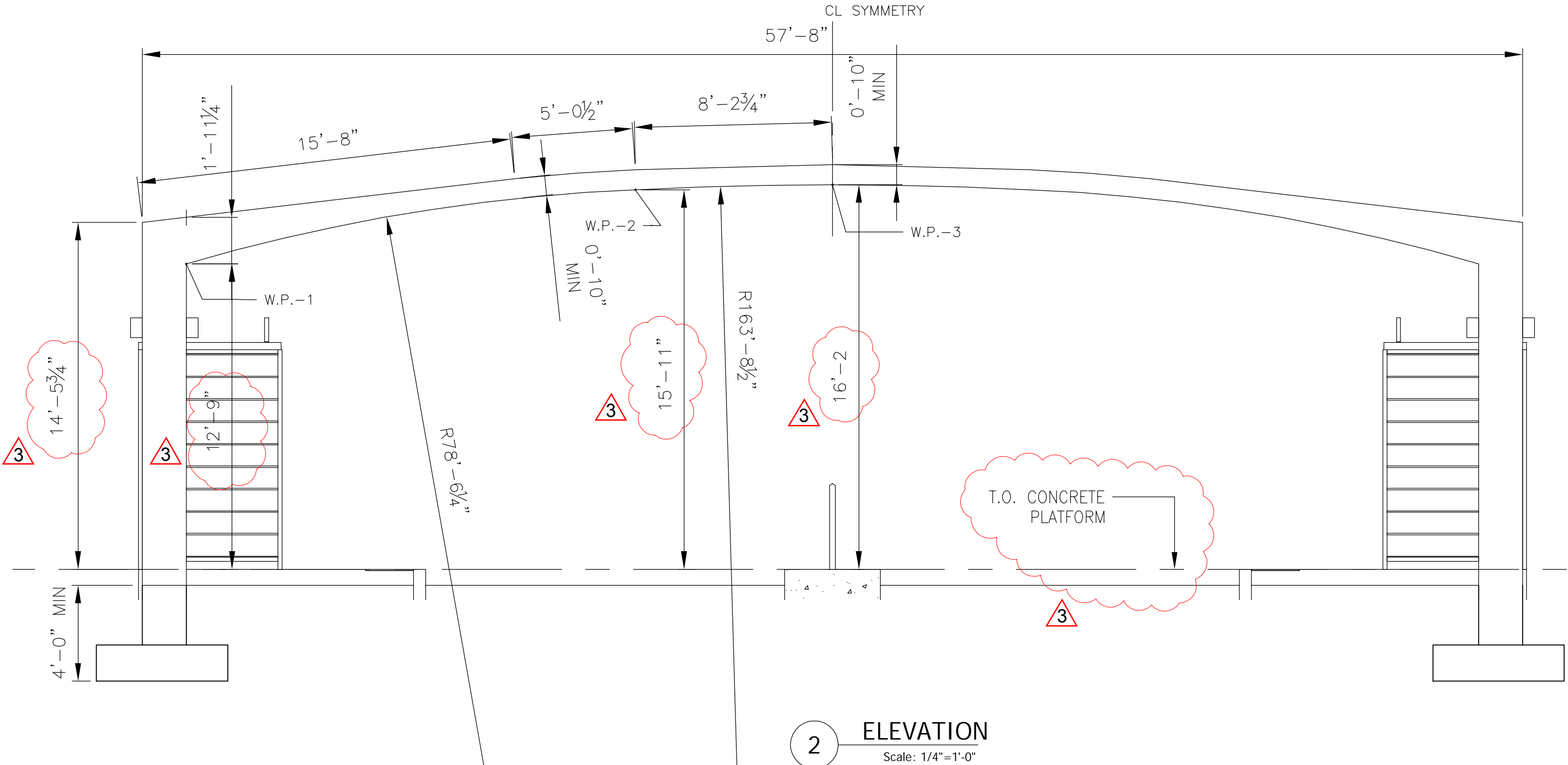


1 SECTION  
Scale: 1/2"=1'-0"

NOTE:  
1. REFER TO SHEET 212 FOR GENERAL NOTES.  
2. REFER TO ARCHITECTURAL & CIVIL DRAWINGS FOR LOCATION OF CONCRETE ARCHES.

CHELSEA SILVER LINE GATEWAY			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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STATION PLANS, SECTIONS, ELEVATIONS



2 ELEVATION  
Scale: 1/4"=1'-0"

CHELSEA  
SILVER LINE GATEWAY

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	214	346
PROJECT FILE NO.		604428	

SECURITY & COMM NOTES

SECURITY AND COMMUNICATIONS SYSTEMS GENERAL NOTES:

- 1) SEE ELECTRICAL BUSWAY LIGHTING PLANS FOR INDIVIDUAL BUSWAY SECURITY CAMERA POLE MOUNTING LOCATIONS.
- 2) SEE ELECTRICAL BUSWAY LIGHTING PLANS FOR ALL COMMUNICATIONS CONDUIT DUCTBANK/HANDHOLE LOCATIONS.
- 3) BUSWAY (POLE MOUNTED) CAMERAS SHALL BE POWERED LOCALLY FROM CIRCUITS PROVIDED BY ELECTRICAL CONTRACTOR AT POLE MOUNTED CAMERA ENCLOSURES.
- 4) COMMUNICATIONS CONTRACTOR SHALL INSTALL NEW FIBER OPTIC CABLE FOR SECURITY NETWORK COMMUNICATIONS TIE-IN THROUGH EXISTING HANDHOLE LOCATION IN VICINITY OF METFON (EOPSS) FACILITY (200 ARLINGTON ST).
- 5) FIBER OPTIC TIE-IN TO EOPSS INFRASTRUCTURE SHALL REQUIRE CAREFUL COORDINATION WITH MBCR, MBTA, AND EOPSS. MBCR PROTOCOL AND SAFETY AND PROCEDURES SHALL BE FOLLOWED.
- 6) AUTOMATED FARE COLLECTION (AFC) SYSTEM SHALL REQUIRE A SEPARATE DEDICATED FIBER OPTIC NETWORK CONNECTION TO MBTA FARE COLLECTION NETWORK. MBCR SHALL PROVIDE A SINGLE MODE FIBER CONNECTION (ONE STRAND) FOR THIS PURPOSE. EXACT LOCATION AND METHOD OF CONNECTION TBD.
- 7) AFC EQUIPMENT SHALL BE CONNECTED TO DEDICATED NETWORK SWITCHES LOCATED IN EACH COMMUNICATIONS EQUIPMENT ENCLOSURE USING CAT6 UTP.
- 8) SELECTED BUSWAY CAMERA VIEWS WITH COVERAGE OF SHARED-USE PATHWAY SHALL BE MADE AVAILABLE TO CITY OF CHELSEA PUBLIC SAFETY. CONTRACTOR SHALL PROVIDE VMS COMPUTER CLIENT AND/OR ALL NECESSARY SOFTWARE AND LICENSING FOR THIS PURPOSE.
- 9) ALL CCTV, VMS, AND PAT HARDWARE, SOFTWARE, AND COMMUNICATIONS DEVICES SHALL BE ENTIRELY COMPATIBLE AND COMPLETELY INTEROPERABLE WITH EXISTING MBTA SECURITY SYSTEMS. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ALL NECESSARY SOFTWARE LICENSES, PROGRAMMING, AND INTEGRATION TO EXISTING MBTA VIDEO MANAGEMENT SYSTEM, PSIM, AND DATA STORAGE SYSTEMS.
- 10) ALL SECURITY SYSTEM DEVICES, COMPONENTS, AND ENCLOSURES SHALL BE FULLY GROUNDED IN ACCORDANCE WITH CURRENT APPLICABLE ELECTRICAL CODES AND STANDARDS.
- 11) CONTRACTOR SHALL PROVIDE ALL NECESSARY CAMERA, STORAGE, EACS, AND PSIM INTEGRATION LICENSES FOR A COMPLETE TURNKEY DEPLOYMENT PER THE SYSTEM SPECIFICATIONS.
- 12) ALL STATION CAMERAS SHALL BE CONNECTED TO THEIR RESPECTIVE SECURITY SWITCH VIA CAT6 CABLE. CAT6 CAMERA CABLES SHALL NOT EXCEED 328 FEET IN LENGTH. IF CONDUIT PATHWAY EXCEEDS 328 FEET, CONTRACTOR SHALL FURNISH AND INSTALL AN ADDITIONAL ETHERNET/PoE EXTENSION DEVICE.
- 13) ALL CAMERAS SHALL BE INSTALLED AND ADJUSTED FOR FOV WITH PARTICIPATION FROM MBTA SECURITY PERSONNEL. CONTRACTOR SHALL INCLUDE AT LEAST ONE VISIT TO EACH CAMERA LOCATION AFTER INITIAL INSTALLATION FOR FINAL FOV ADJUSTMENT.
- 14) ALL CCTV CAMERAS SHALL BE BARCODED AND LABELLED ACCORDING TO MBTA STANDARDS. CONTRACTOR SHALL COORDINATE WITH MBTA FOR PROPER NAMING, BARCODING AND LABELLING STANDARDS.
- 15) MBTA SECURITY SHALL PROVIDE IP DEVICE ADDRESSING. CONTRACTOR SHALL SUBMIT IP ADDRESSING REQUESTS WELL IN ADVANCE OF REQUIRED STARTUP DATE.
- 16) CONTRACTOR SHALL PROGRAM AND CONFIGURE VIDSYS MAP SCREENS AND LAYOUTS WITH FUNCTIONAL ICONS FOR ALL INTEGRATED FUNCTIONALITY. ALL FUNCTIONS, ALARM NOTIFICATIONS, AND ICONS SHALL MATCH EXISTING VIDSYS PROGRAMMING STANDARDS. IN THE EVENT OF LACK OF PRECEDENT, THE CONTRACTOR SHALL COORDINATE WITH MBTA FOR FURTHER DIRECTION.
- 17) VIDSYS MAPS SHALL BE PREPARED BY THE CONTRACTOR FOR APPROVAL BY MBTA SECURITY PRIOR TO PROGRAMMING/UPLOADING TO THE VIDSYS SYSTEM.
- 18) STATION COMMUNICATION ENCLOSURES SHALL BE INSTALLED AT EACH STATION. SEE SPECIFICATION APPENDIX FOR STATION COMMUNICATION ENCLOSURE DETAILS.
- 19) COMMUNICATION ENCLOSURES SHALL BE INTERCONNECTED VIA A 12 STRAND SINGLE MODE FIBER OPTIC BACKBONE RING EXTENDING THE LENGTH OF THE BRT SYSTEM, AND ORIGINATING AT THE MYSTIC MALL COMMUNICATIONS ENCLOSURE.
- 20)
- 21) CONNECTION OF THE COMMUNICATIONS BACKBONE TO THE MBTA SWAN SHALL BE AT THE METFON (EOPSS) FACILITY LOCATED AT 200 ARLINGTON ST.

SECURITY AND COMMUNICATIONS SYSTEMS ABBREVIATIONS:

AFV - AUTOMATED FARE VENDING  
BRT - BUS RAPID TRANSIT  
CAT6 - CATEGORY 6 UTP CABLE  
EACS - ELECTRONIC ACCESS CONTROL SYSTEM  
ESS - ELECTRONIC SIGNAGE SYSTEM  
FIBER Tx (MUX) - FIBER OPTIC TRANSCEIVER (MULTIPLEXER)  
FOV - CAMERA FIELD OF VIEW  
NVR - NETWORK VIDEO RECORDER  
PAT - PUBLIC ASSISTANCE TELEPHONE  
PoE - POWER OVER ETHERNET  
SES ENCLOSURE - SECURITY EQUIPMENT SWITCH ENCLOSURE  
U - RACK UNIT (19" X 1.75")  
UPS - ININTERRUPTIBLE POWER SYSTEM  
VMS - VIDEO MANAGEMENT SYSTEM

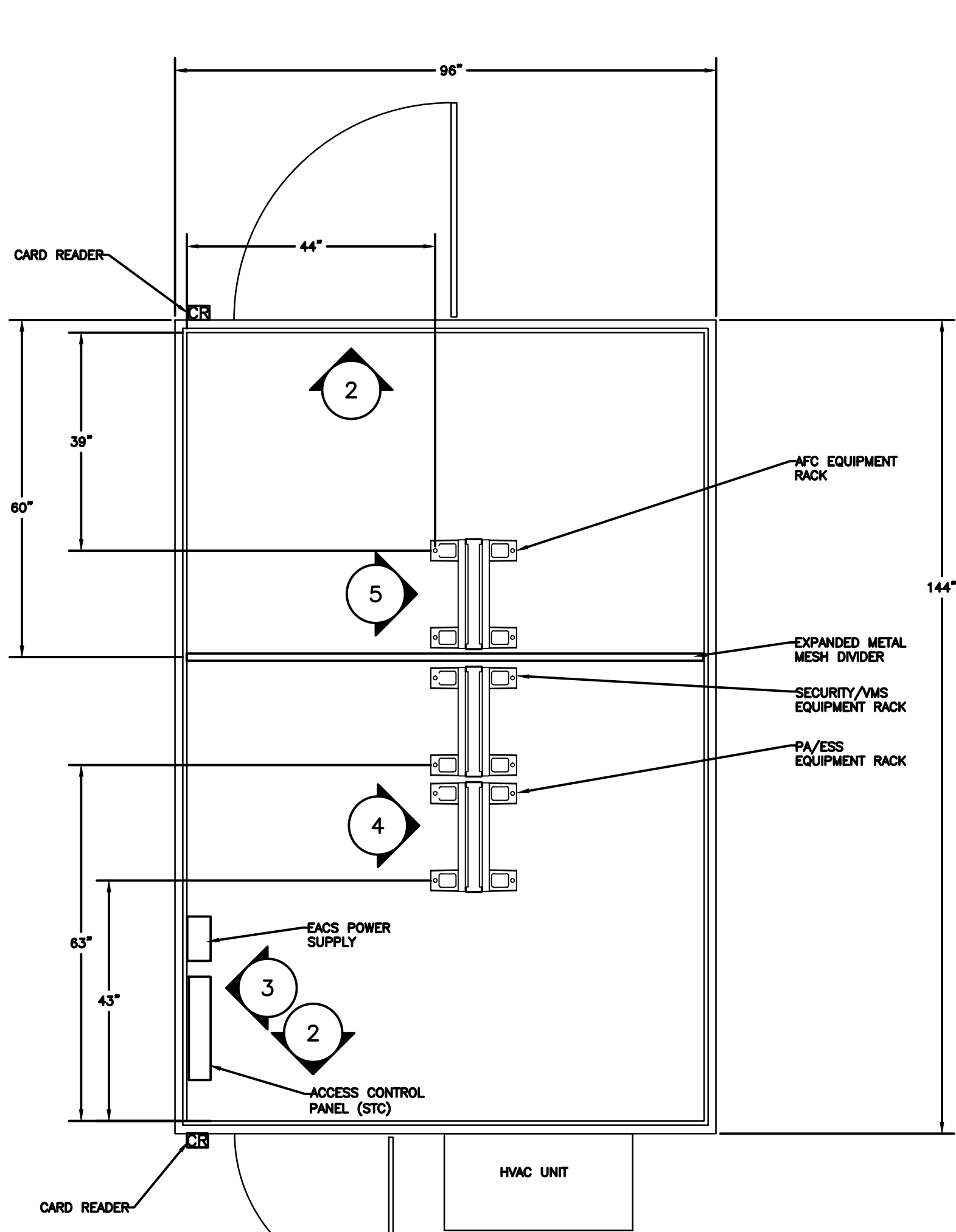
CHELSEA  
SILVER LINE GATEWAY

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	217	346
PROJECT FILE NO.		604428	

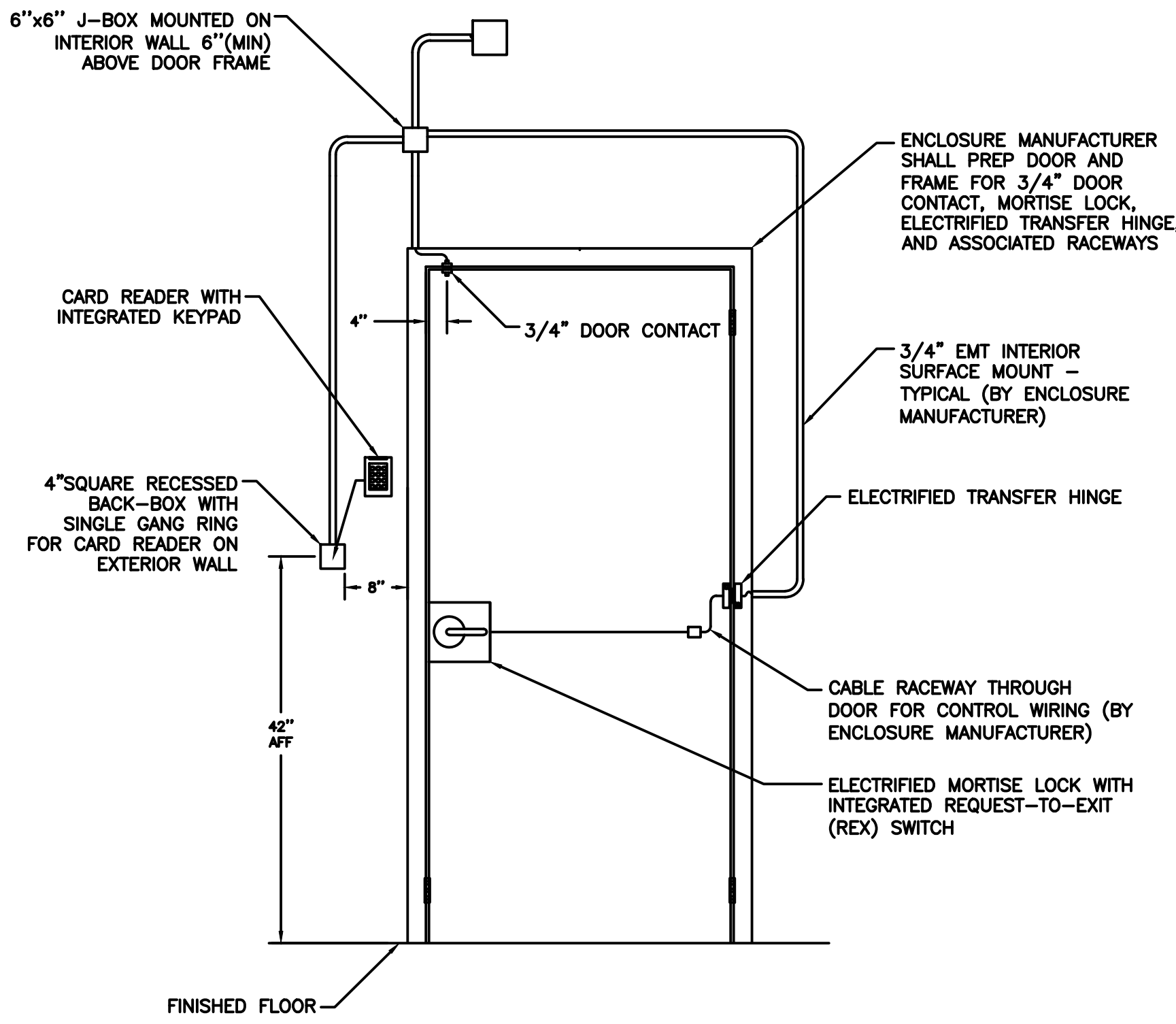
SECURITY EQUIPMENT CABINET DETAILS  
AND LINE DIAGRAM

GENERAL NOTES:

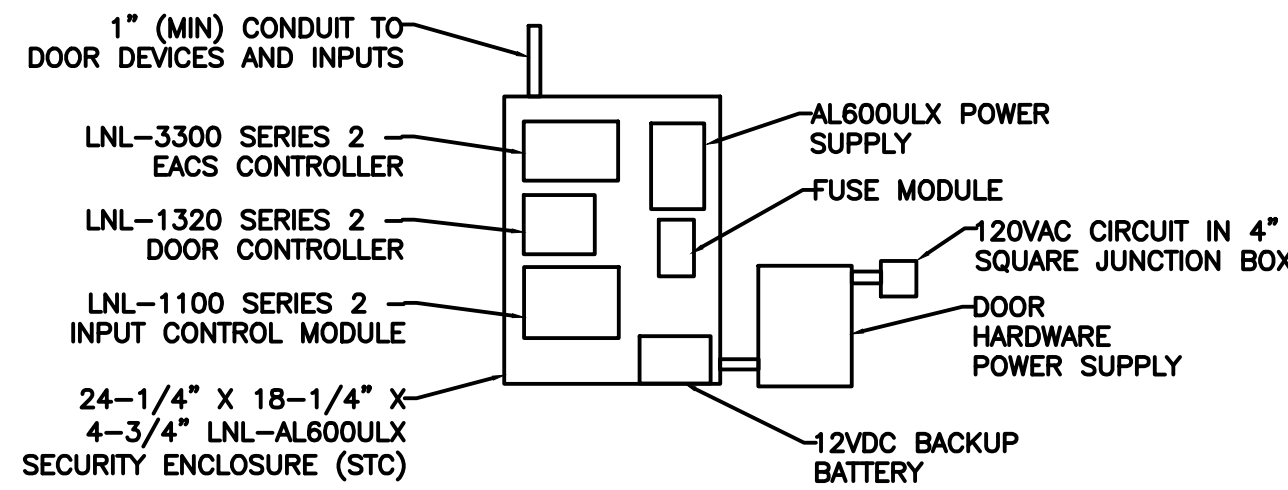
- CCTV CAMERA LOCAL (SECONDARY) NVR/STORAGE UNITS FOR ENTIRE BRT SYSTEM SHALL BE LOCATED AT **DOWNTOWN CHELSEA STATION SECURITY EQUIPMENT RACK ONLY**. CAMERAS AT REMAINING STATIONS AND BRT BUSWAY SHALL TRANSMIT SIGNALS TO **DOWNTOWN CHELSEA NVR's** VIA SECURITY SWITCHES LOCATED AT EACH STATION.
- CCTV DATA SHALL BE CONNECTED TO MBTA SECURITY WIDE AREA NETWORK (SWAN) VIA SECURITY IP SWITCH LOCATED IN **DOWNTOWN CHELSEA STATION COMMUNICATIONS ENCLOSURE**.
- PA AND ELECTRONIC SIGNAGE EQUIPMENT SHALL BE CONNECTED TO THE MBTA'S SONET NETWORK VIA EOPSS DATA CENTER DATA CONNECTION.
- FURNISH AND INSTALL SMS SERVERS/CAMERA LICENCING AND PRIMARY STORAGE BANK TO BE LOCATED IN MBTA'S EXISTING DATA CTR AT 45 HIGH STREET.
- SHARED USE CAMERA COVERAGE SHALL BE MADE AVAILABLE TO CITY OF CHELSEA PUBLIC SAFETY DEPARTMENT.
- SEE EACS SPECIFICATION SECTION 13700 FOR EACS CABLING DETAILS.
- SEE FIBER OPTIC SPECIFICATIONS SECTION 16749 FOR FIBER OPTIC CABLE SPECIFICATIONS.
- AFC DATA CONNECTION TO MBTA AFC NETWORK VIA EXISTING FIBER OPTIC INFRASTRUCTURE SHALL BE MADE AT THE EASTERN AVE. STATION COMMUNICATIONS ENCLOSURE. CONTRACTOR SHALL COORDINATE CONNECTION TO EXISTING FIBER INFRASTRUCTURE WITH MBTA/MASSDOT.



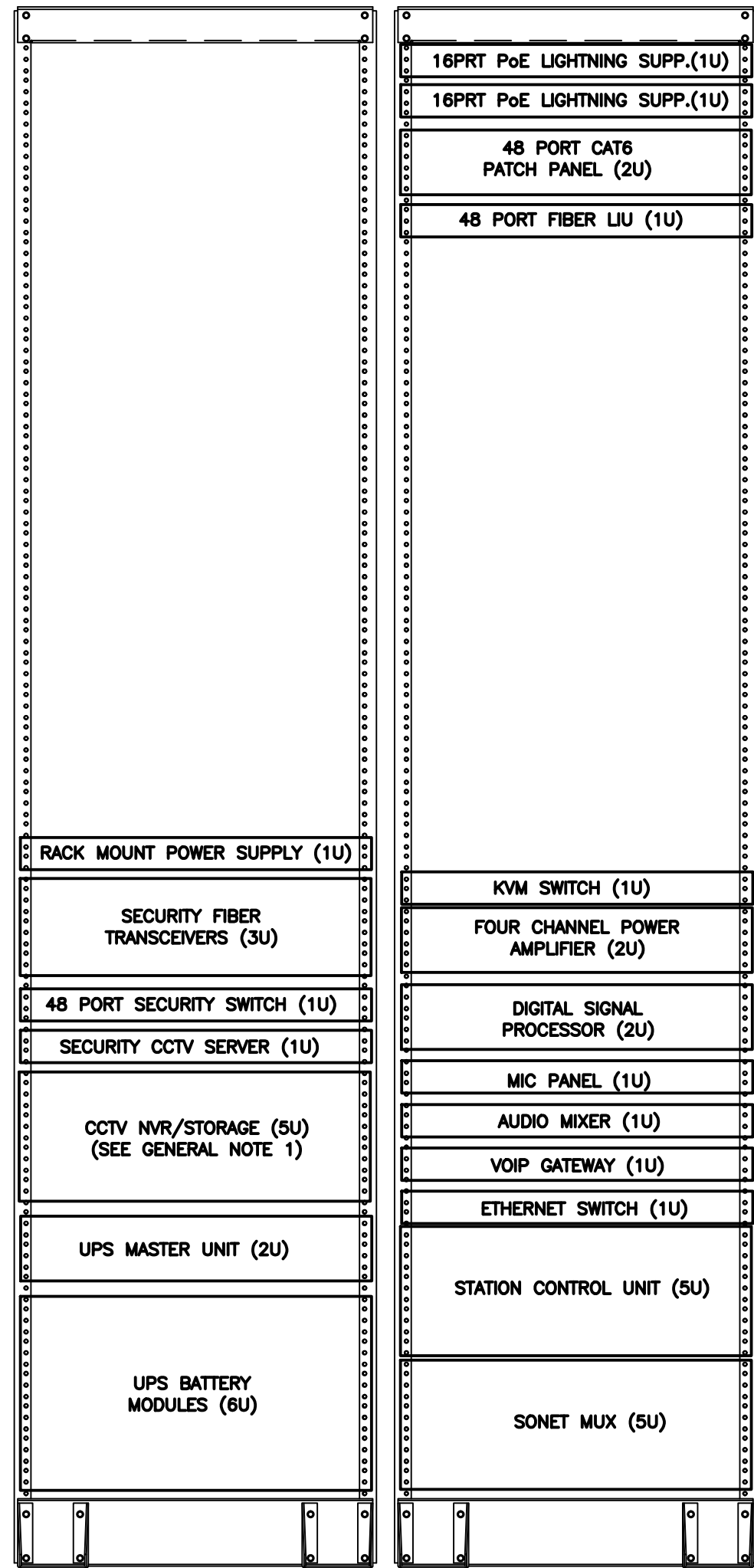
1 COMMUNICATIONS EQUIPMENT ENCLOSURE LAYOUT  
SCALE: NTS



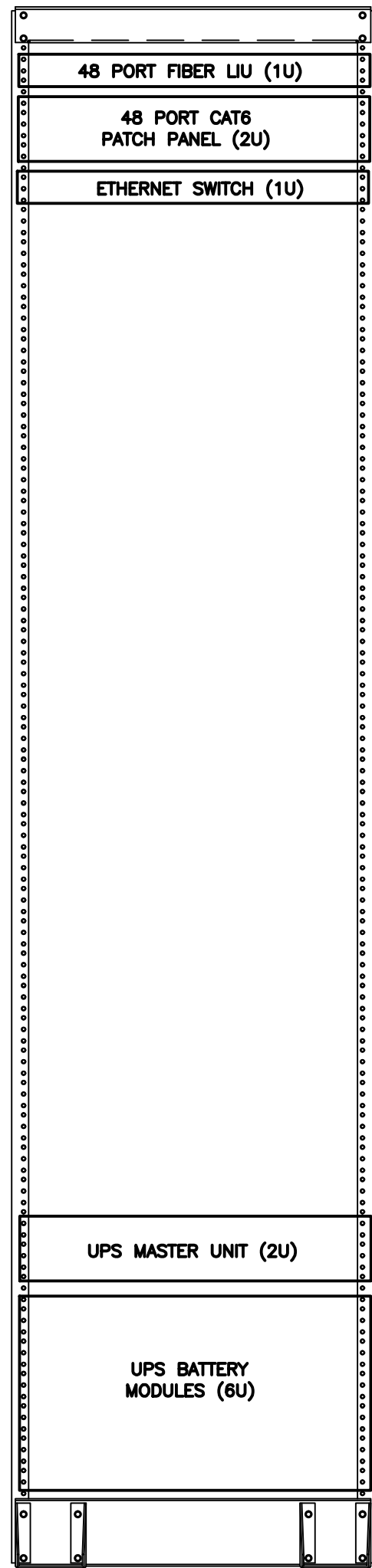
2 COMMUNICATIONS ENCLOSURE EACS DOOR  
SCALE: NTS



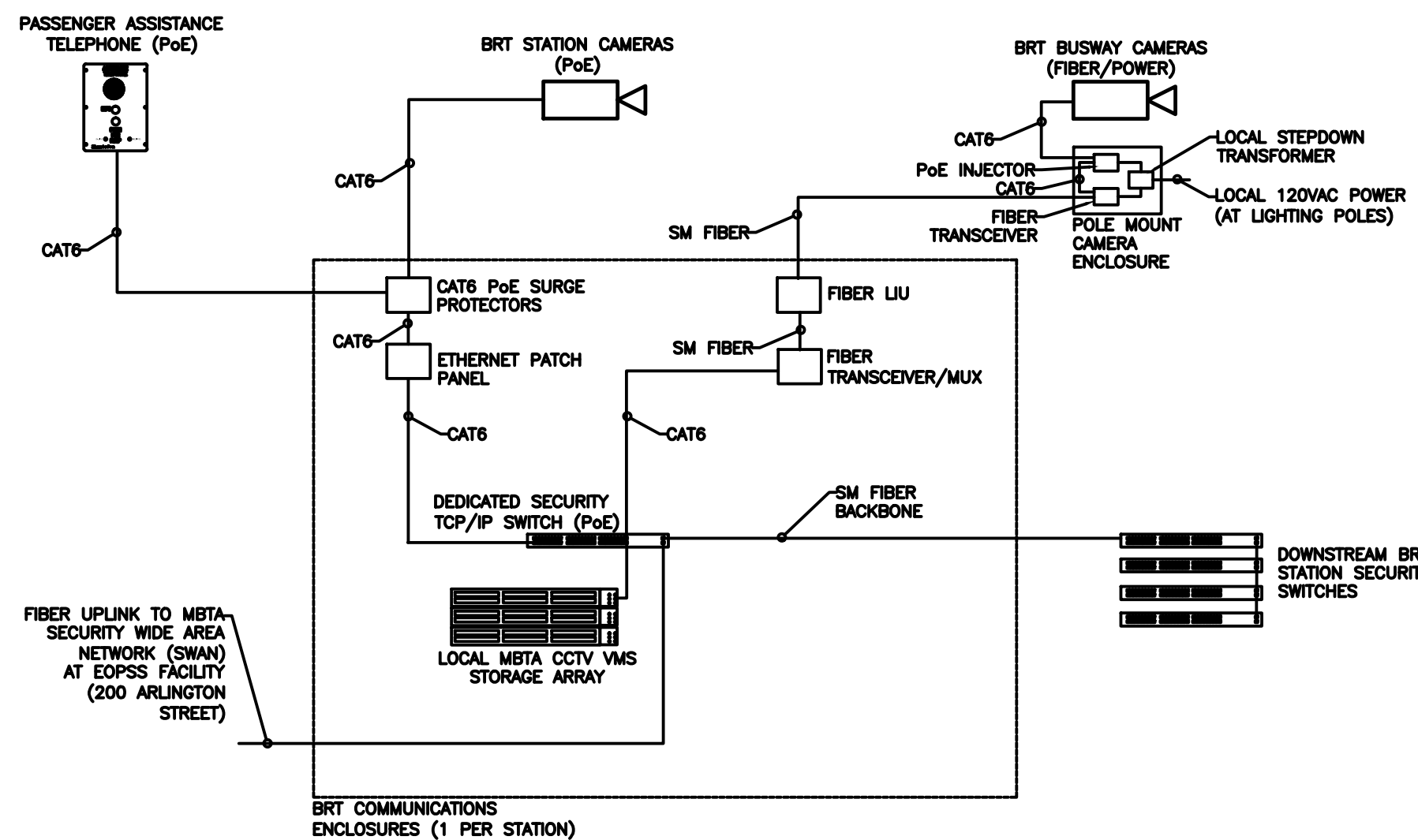
3 ACCESS CONTROL PANEL DETAIL  
SCALE: NTS



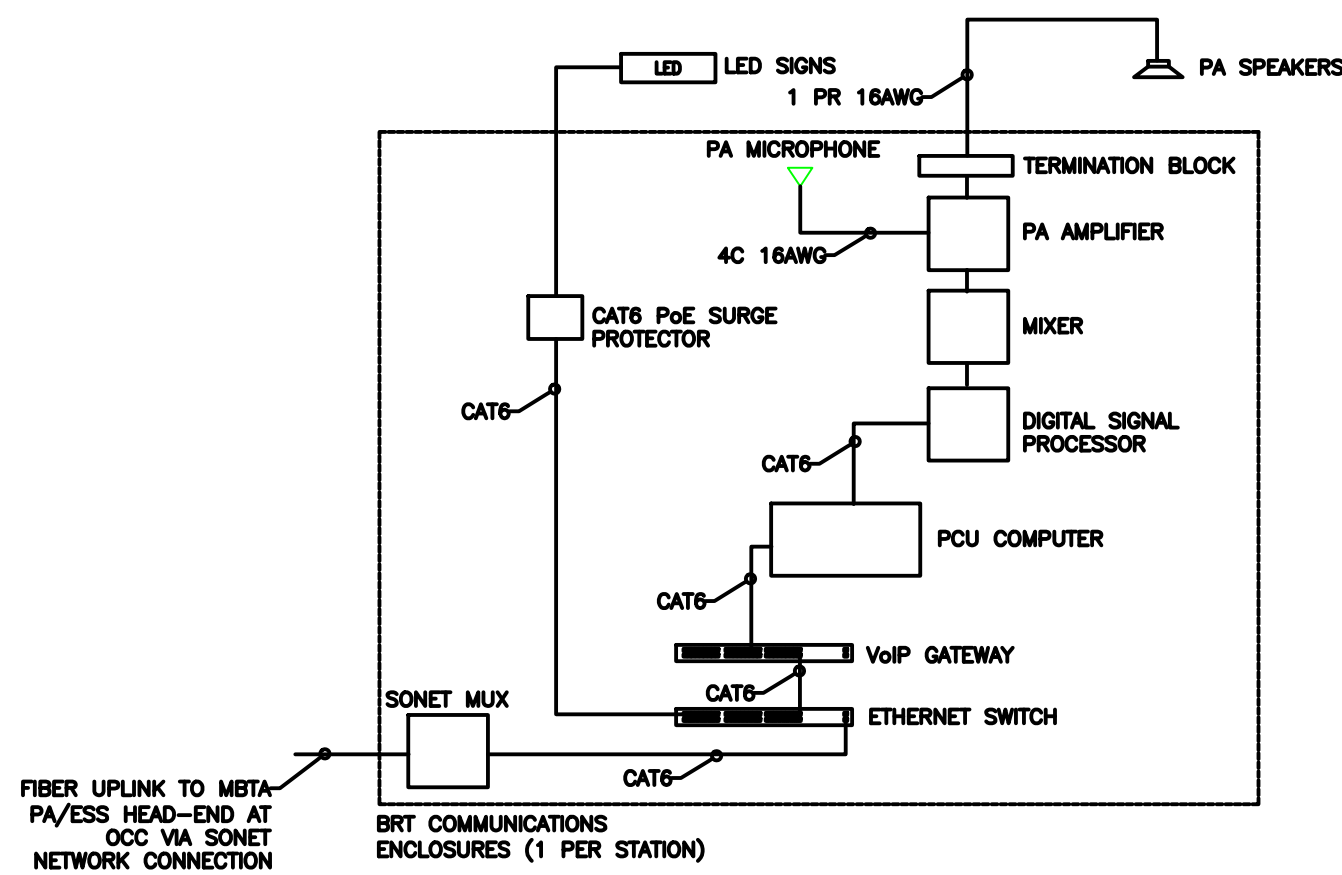
4 SECURITY/PA/ESS EQUIPMENT RACK LAYOUT  
SCALE: NTS



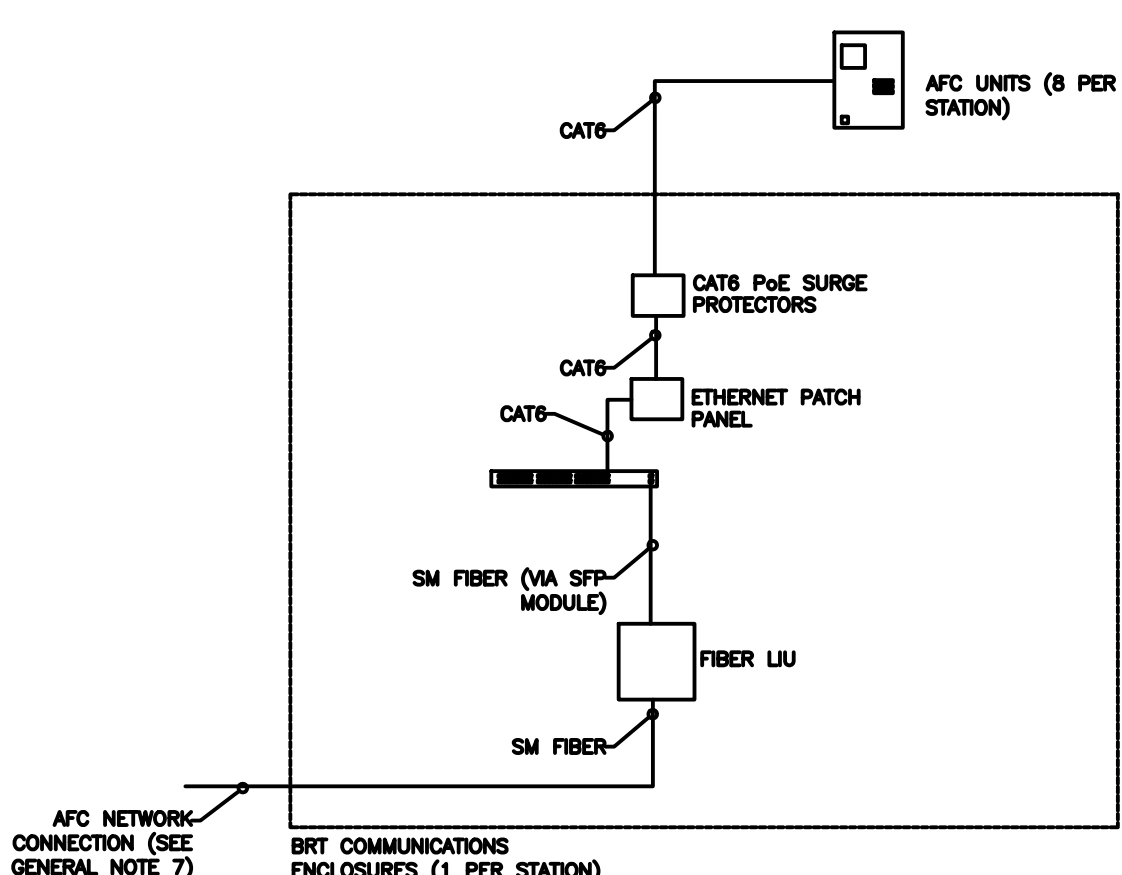
5 AFC EQUIPMENT RACK LAYOUT  
SCALE: NTS



6 SECURITY SYSTEM COMMUNICATIONS LINE DIAGRAM  
SCALE: NTS



7 PA/ESS SYSTEM COMMUNICATIONS LINE DIAGRAM  
SCALE: NTS



8 AFC SYSTEM COMMUNICATIONS LINE DIAGRAM  
SCALE: NTS

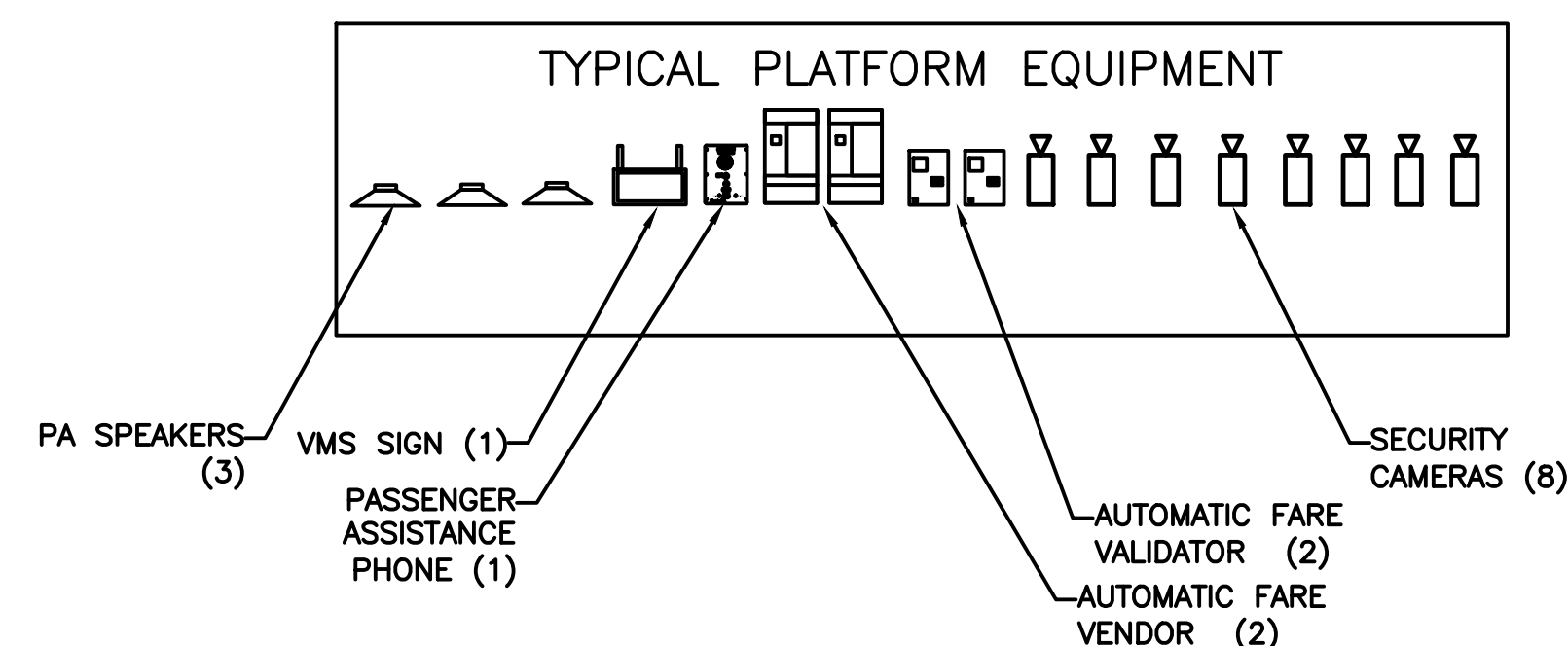
**CHELSEA  
SILVER LINE GATEWAY**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	218	346
PROJECT FILE NO.		604428	

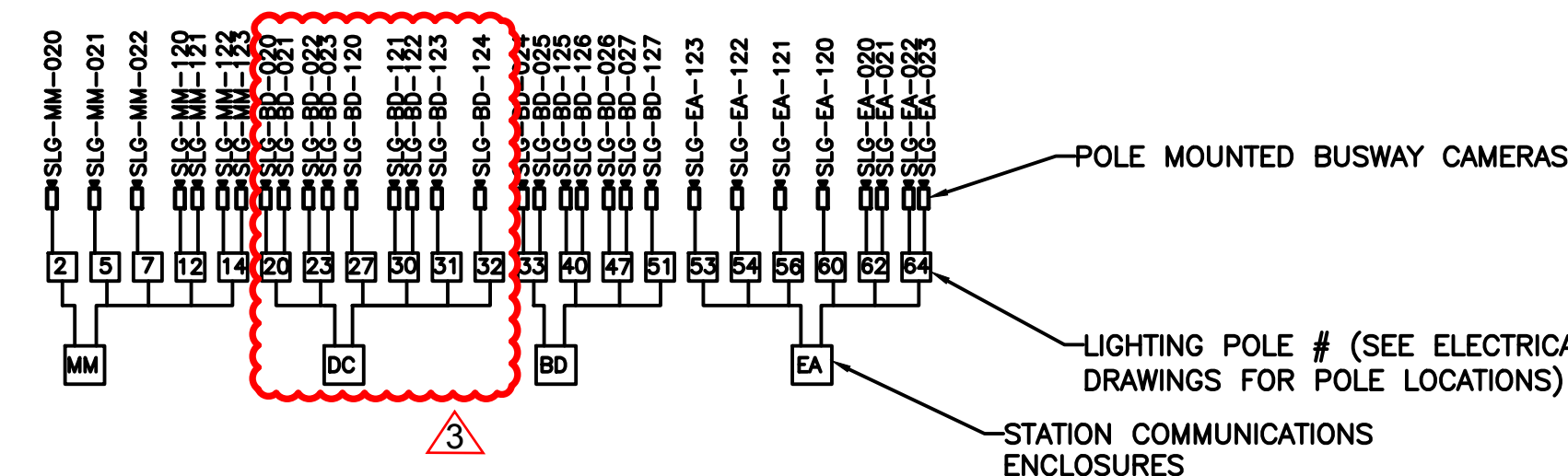
**SECURITY EQUIPMENT CABINET DETAILS  
AND LINE DIAGRAM**

GENERAL NOTES:

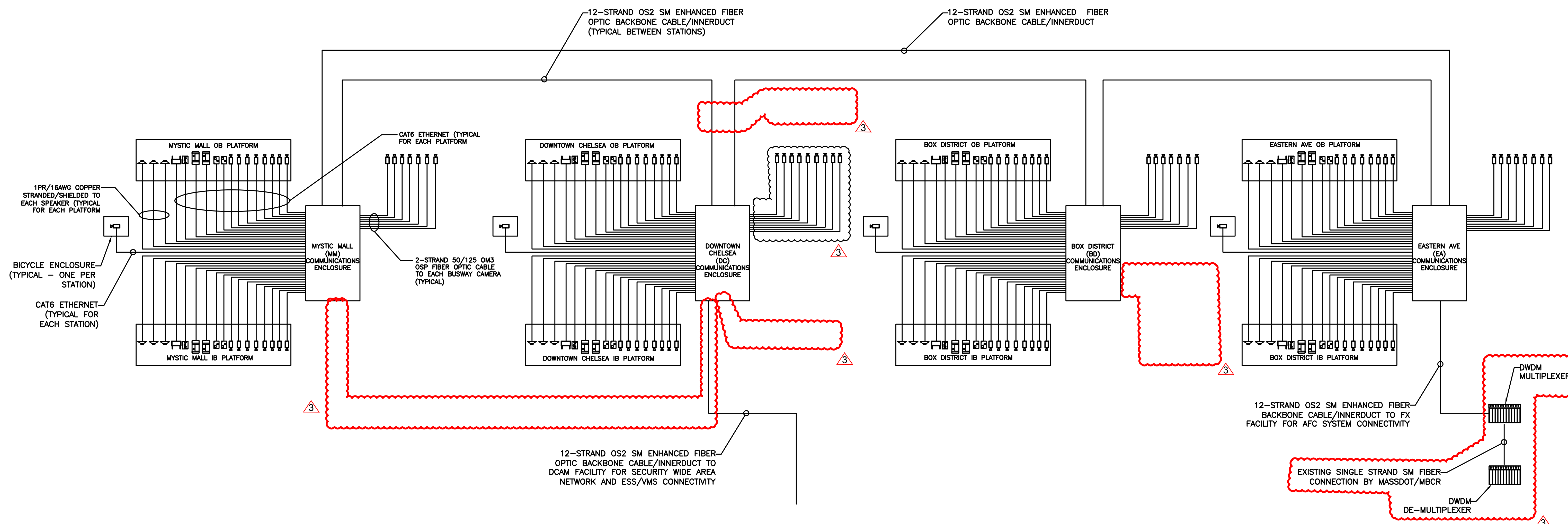
- FIBER OPTIC BACKBONE CONNECTIONS TO MASSDOT-MBTA SWAN AND SONET NETWORKS SHALL BE MADE AT DCAM (EOPSS DATA CENTER).
- SECURITY/COMMUNICATIONS CONTRACTOR SHALL COORDINATE WITH MASSDOT-MBTA FOR COMMUNICATIONS TIE-INS.
- ALL COMMUNICATIONS BACKBONE FIBER SHALL BE INSTALLED IN 1.25" INNERDUCT, WITH PULL-STRINGS INCLUDED FOR FUTURE EXPANSION.
- ALL BUSWAY (POLE MOUNTED) CAMERAS SHALL COMMUNICATE TO CCTV SWITCHES LOCATED IN NEAREST COMMUNICATIONS ENCLOSURES OVER 2-STRAND MULTI-MODE ALL-DIELECTRIC FIBER OPTIC CABLE RATED FOR OUTDOOR CONDUIT APPLICATIONS WITHOUT INNERDUCT.



1 TYPICAL PLATFORM SECURITY & COMM. DEVICES  
SCALE: NTS



2 BUSWAY CAMERA FIBER DISTRIBUTION  
SCALE: NTS



3 SECURITY & COMMUNICATIONS LINE DIAGRAM  
SCALE: NTS

EACS DOOR SCHEDULE				
DOOR NUMBER	DESCRIPTION	DOOR TYPE	STC LOCATION	CONNECTION TYPE
SLG-MM-060	MYSTIC MALL COMMUNICATIONS ENCLOSURE SWAN/SONET DOOR	REF SHEET 217 - DETAIL 2	MYSTIC MALL	RS-485
SLG-MM-061	MYSTIC MALL COMMUNICATIONS ENCLOSURE AFC DOOR	REF SHEET 217 - DETAIL 2	MYSTIC MALL	RS-485
SLG-DC-060	DOWNTOWN CHELSEA COMMUNICATIONS ENCLOSURE SWAN/SONET DOOR	REF SHEET 217 - DETAIL 2	DOWNTOWN CHELSEA	RS-485
SLG-DC-061	DOWNTOWN CHELSEA COMMUNICATIONS ENCLOSURE AFC DOOR	REF SHEET 217 - DETAIL 2	DOWNTOWN CHELSEA	RS-485
SLG-BD-060	BOX DISTRICT COMMUNICATIONS ENCLOSURE SWAN/SONET DOOR	REF SHEET 217 - DETAIL 2	BOX DISTRICT	RS-485
SLG-BD-061	BOX DISTRICT COMMUNICATIONS ENCLOSURE AFC DOOR	REF SHEET 217 - DETAIL 2	BOX DISTRICT	RS-485
SLG-EA-060	EASTERN AVE COMMUNICATIONS ENCLOSURE SWAN/SONET DOOR	REF SHEET 217 - DETAIL 2	EASTERN AVE	RS-485
SLG-EA-061	EASTERN AVE COMMUNICATIONS ENCLOSURE AFC DOOR	REF SHEET 217 - DETAIL 2	EASTERN AVE	RS-485

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	219	346
PROJECT FILE NO.		604428	

PA/ESS DEVICE SCHEDULE						
DEVICE NUMBER	DESCRIPTION	DEVICE TYPE	MOUNT TYPE	CONNECTION TYPE	SWITCH LOCATION	
SLG-MM-040	MYSTIC MALL OB PLATFORM PA SPEAKER 1	PA SPEAKER	CEILING	2C 16AWG (COPPER)	MYSTIC MALL STATION	
SLG-MM-041	MYSTIC MALL OB PLATFORM PA SPEAKER 2	PA SPEAKER	CEILING	2C 16AWG (COPPER)	MYSTIC MALL STATION	
SLG-MM-042	MYSTIC MALL OB PLATFORM PA SPEAKER 3	PA SPEAKER	CEILING	2C 16AWG (COPPER)	MYSTIC MALL STATION	
SLG-MM-043	MYSTIC MALL OB PLATFORM DIGITAL INFORMATION SIGN	ESS SIGN	PENDANT	CAT6	MYSTIC MALL STATION	
SLG-MM-140	MYSTIC MALL IB PLATFORM PA SPEAKER 1	PA SPEAKER	CEILING	2C 16AWG (COPPER)	MYSTIC MALL STATION	
SLG-MM-141	MYSTIC MALL IB PLATFORM PA SPEAKER 2	PA SPEAKER	CEILING	2C 16AWG (COPPER)	MYSTIC MALL STATION	
SLG-MM-142	MYSTIC MALL IB PLATFORM PA SPEAKER 3	PA SPEAKER	CEILING	2C 16AWG (COPPER)	MYSTIC MALL STATION	
SLG-MM-143	MYSTIC MALL IB PLATFORM DIGITAL INFORMATION SIGN	ESS SIGN	PENDANT	CAT6	MYSTIC MALL STATION	
SLG-DC-040	DOWNTOWN CHELSEA OB PLATFORM PA SPEAKER 1	PA SPEAKER	CEILING	2C 16AWG (COPPER)	DOWNTOWN CHELSEA STATION	
SLG-DC-041	DOWNTOWN CHELSEA OB PLATFORM PA SPEAKER 2	PA SPEAKER	CEILING	2C 16AWG (COPPER)	DOWNTOWN CHELSEA STATION	
SLG-DC-042	DOWNTOWN CHELSEA OB PLATFORM PA SPEAKER 3	PA SPEAKER	CEILING	2C 16AWG (COPPER)	DOWNTOWN CHELSEA STATION	
SLG-DC-043	DOWNTOWN CHELSEA OB PLATFORM DIGITAL INFORMATION SIGN	ESS SIGN	PENDANT	CAT6	DOWNTOWN CHELSEA STATION	
SLG-DC-140	DOWNTOWN CHELSEA IB PLATFORM PA SPEAKER 1	PA SPEAKER	CEILING	2C 16AWG (COPPER)	DOWNTOWN CHELSEA STATION	
SLG-DC-141	DOWNTOWN CHELSEA IB PLATFORM PA SPEAKER 2	PA SPEAKER	CEILING	2C 16AWG (COPPER)	DOWNTOWN CHELSEA STATION	
SLG-DC-142	DOWNTOWN CHELSEA IB PLATFORM PA SPEAKER 3	PA SPEAKER	CEILING	2C 16AWG (COPPER)	DOWNTOWN CHELSEA STATION	
SLG-DC-143	DOWNTOWN CHELSEA IB PLATFORM DIGITAL INFORMATION SIGN	ESS SIGN	PENDANT	CAT6	DOWNTOWN CHELSEA STATION	
SLG-BD-040	BOX DISTRICT OB PLATFORM PA SPEAKER 1	PA SPEAKER	CEILING	2C 16AWG (COPPER)	BOX DISTRICT STATION	
SLG-BD-041	BOX DISTRICT OB PLATFORM PA SPEAKER 2	PA SPEAKER	CEILING	2C 16AWG (COPPER)	BOX DISTRICT STATION	
SLG-BD-042	BOX DISTRICT OB PLATFORM PA SPEAKER 3	PA SPEAKER	CEILING	2C 16AWG (COPPER)	BOX DISTRICT STATION	
SLG-BD-043	BOX DISTRICT OB PLATFORM DIGITAL INFORMATION SIGN	ESS SIGN	PENDANT	CAT6	BOX DISTRICT STATION	
SLG-BD-140	BOX DISTRICT IB PLATFORM PA SPEAKER 1	PA SPEAKER	CEILING	2C 16AWG (COPPER)	BOX DISTRICT STATION	
SLG-BD-141	BOX DISTRICT IB PLATFORM PA SPEAKER 2	PA SPEAKER	CEILING	2C 16AWG (COPPER)	BOX DISTRICT STATION	
SLG-BD-142	BOX DISTRICT IB PLATFORM PA SPEAKER 3	PA SPEAKER	CEILING	2C 16AWG (COPPER)	BOX DISTRICT STATION	
SLG-BD-143	BOX DISTRICT IB PLATFORM DIGITAL INFORMATION SIGN	ESS SIGN	PENDANT	CAT6	BOX DISTRICT STATION	
SLG-EA-040	EASTERN AVE OB PLATFORM PA SPEAKER 1	PA SPEAKER	CEILING	2C 16AWG (COPPER)	EASTERN AVE STATION	
SLG-EA-041	EASTERN AVE OB PLATFORM PA SPEAKER 2	PA SPEAKER	CEILING	2C 16AWG (COPPER)	EASTERN AVE STATION	
SLG-EA-042	EASTERN AVE OB PLATFORM PA SPEAKER 3	PA SPEAKER	CEILING	2C 16AWG (COPPER)	EASTERN AVE STATION	
SLG-EA-043	EASTERN AVE OB PLATFORM DIGITAL INFORMATION SIGN	ESS SIGN	PENDANT	CAT6	EASTERN AVE STATION	
SLG-EA-140	EASTERN AVE IB PLATFORM PA SPEAKER 1	PA SPEAKER	CEILING	2C 16AWG (COPPER)	EASTERN AVE STATION	
SLG-EA-141	EASTERN AVE IB PLATFORM PA SPEAKER 2	PA SPEAKER	CEILING	2C 16AWG (COPPER)	EASTERN AVE STATION	
SLG-EA-142	EASTERN AVE IB PLATFORM PA SPEAKER 3	PA SPEAKER	CEILING	2C 16AWG (COPPER)	EASTERN AVE STATION	
SLG-EA-143	EASTERN AVE IB PLATFORM DIGITAL INFORMATION SIGN	ESS SIGN	PENDANT	CAT6	EASTERN AVE STATION	

DEVICE NUMBER	DESCRIPTION	DEVICE TYPE	MOUNT TYPE	CONNECTION TYPE	SWITCH LOCATION
SLG-MM-050	MYSTIC MALL OB PLATFORM AFC VENDOR 1	AFC VENDOR	FLOOR	FIBER	MYSTIC MALL STATION
SLG-MM-051	MYSTIC MALL OB PLATFORM AFC VALIDATOR 1	AFC VALIDATOR	FLOOR	FIBER	MYSTIC MALL STATION
SLG-MM-052	MYSTIC MALL OB PLATFORM AFC VENDOR 2	AFC VENDOR	FLOOR	FIBER	MYSTIC MALL STATION
SLG-MM-053	MYSTIC MALL OB PLATFORM AFC VALIDATOR 2	AFC VALIDATOR	FLOOR	FIBER	MYSTIC MALL STATION
SLG-MM-150	MYSTIC MALL IB PLATFORM AFC VENDOR 1	AFC VENDOR	FLOOR	FIBER	MYSTIC MALL STATION
SLG-MM-151	MYSTIC MALL IB PLATFORM AFC VALIDATOR 1	AFC VALIDATOR	FLOOR	FIBER	MYSTIC MALL STATION
SLG-MM-152	MYSTIC MALL IB PLATFORM AFC VENDOR 2	AFC VENDOR	FLOOR	FIBER	MYSTIC MALL STATION
SLG-MM-153	MYSTIC MALL IB PLATFORM AFC VALIDATOR 2	AFC VALIDATOR	FLOOR	FIBER	MYSTIC MALL STATION
SLG-DC-050	DOWNTOWN CHELSEA OB PLATFORM AFC VENDOR 1	AFC VENDOR	FLOOR	FIBER	DOWNTOWN CHELSEA STATION
SLG-DC-051	DOWNTOWN CHELSEA OB PLATFORM AFC VALIDATOR 1	AFC VALIDATOR	FLOOR	FIBER	DOWNTOWN CHELSEA STATION
SLG-DC-052	DOWNTOWN CHELSEA OB PLATFORM AFC VENDOR 2	AFC VENDOR	FLOOR	FIBER	DOWNTOWN CHELSEA STATION
SLG-DC-053	DOWNTOWN CHELSEA OB PLATFORM AFC VALIDATOR 2	AFC VALIDATOR	FLOOR	FIBER	DOWNTOWN CHELSEA STATION
SLG-DC-150	DOWNTOWN CHELSEA IB PLATFORM AFC VENDOR 1	AFC VENDOR	FLOOR	FIBER	DOWNTOWN CHELSEA STATION
SLG-DC-151	DOWNTOWN CHELSEA IB PLATFORM AFC VALIDATOR 1	AFC VALIDATOR	FLOOR	FIBER	DOWNTOWN CHELSEA STATION
SLG-DC-152	DOWNTOWN CHELSEA IB PLATFORM AFC VENDOR 2	AFC VENDOR	FLOOR	FIBER	DOWNTOWN CHELSEA STATION
SLG-DC-153	DOWNTOWN CHELSEA IB PLATFORM AFC VALIDATOR 2	AFC VALIDATOR	FLOOR	FIBER	DOWNTOWN CHELSEA STATION
SLG-BD-050	BOX DISTRICT OB PLATFORM AFC VENDOR 1	AFC VENDOR	FLOOR	FIBER	BOX DISTRICT STATION
SLG-BD-051	BOX DISTRICT OB PLATFORM AFC VALIDATOR 1	AFC VALIDATOR	FLOOR	FIBER	BOX DISTRICT STATION
SLG-BD-052	BOX DISTRICT OB PLATFORM AFC VENDOR 2	AFC VENDOR	FLOOR	FIBER	BOX DISTRICT STATION
SLG-BD-053	BOX DISTRICT OB PLATFORM AFC VALIDATOR 2	AFC VALIDATOR	FLOOR	FIBER	BOX DISTRICT STATION
SLG-BD-150	BOX DISTRICT IB PLATFORM AFC VENDOR 1	AFC VENDOR	FLOOR	FIBER	BOX DISTRICT STATION
SLG-BD-151	BOX DISTRICT IB PLATFORM AFC VALIDATOR 1	AFC VALIDATOR	FLOOR	FIBER	BOX DISTRICT STATION
SLG-BD-152	BOX DISTRICT IB PLATFORM AFC VENDOR 2	AFC VENDOR	FLOOR	FIBER	BOX DISTRICT STATION
SLG-BD-153	BOX DISTRICT IB PLATFORM AFC VALIDATOR 2	AFC VALIDATOR	FLOOR	FIBER	BOX DISTRICT STATION
SLG-EA-050	EASTERN AVE OB PLATFORM AFC VENDOR 1	AFC VENDOR	FLOOR	FIBER	EASTERN AVE STATION
SLG-EA-051	EASTERN AVE OB PLATFORM AFC VALIDATOR 1	AFC VALIDATOR	FLOOR	FIBER	EASTERN AVE STATION
SLG-EA-052	EASTERN AVE OB PLATFORM AFC VENDOR 2	AFC VENDOR	FLOOR	FIBER	EASTERN AVE STATION
SLG-EA-053	EASTERN AVE OB PLATFORM AFC VALIDATOR 2	AFC VALIDATOR	FLOOR	FIBER	EASTERN AVE STATION
SLG-EA-150	EASTERN AVE IB PLATFORM AFC VENDOR 1	AFC VENDOR	FLOOR	FIBER	EASTERN AVE STATION
SLG-EA-151	EASTERN AVE IB PLATFORM AFC VALIDATOR 1	AFC VALIDATOR	FLOOR	FIBER	EASTERN AVE STATION
SLG-EA-152	EASTERN AVE IB PLATFORM AFC VENDOR 2	AFC VENDOR	FLOOR	FIBER	EASTERN AVE STATION
SLG-EA-153	EASTERN AVE IB PLATFORM AFC VALIDATOR 2	AFC VALIDATOR	FLOOR	FIBER	EASTERN AVE STATION